City of San Diego

CONTRACTOR'S NAME: Burtech Pipeline Incorporated
ADDRESS: 1325 Pipeline Drive, Vista, CA 92081
TELEPHONE NO.: 760-634-2822 **FAX NO.:** buddy@burtechpipeline.com
CITY CONTACT: Ron McMinn Jr., Contract Specialist, Email: RMcMinn@sandiego.gov
Phone No. (619) 533-4618
S. Crespo / M. Jirjis Nakasha / R. Sigston

BIDDING DOCUMENTS

e - Bidding

FOR

WATER AND SEWER GROUP 965

BID NO.: **K-24-2003-DBB-3-A**
SAP NO. (WBS/IO/CC): **B-12048, B-12057**
CLIENT DEPARTMENT: **2000**
COUNCIL DISTRICT: **1**
PROJECT TYPE: **KB, JA**

THIS CONTRACT WILL BE SUBJECT TO THE FOLLOWING:

- THE CITY'S SUBCONTRACTING PARTICIPATION REQUIREMENTS FOR SLBE PROGRAM
- PREVAILING WAGE RATES: STATE ☒ FEDERAL ☐
- APPRENTICESHIP

THIS CONTRACT MAY BE SUBJECT TO THE FOLLOWING:

- PHASED-FUNDING

BID DUE DATE:

2:00 PM
FEBRUARY 21, 2024

CITY OF SAN DIEGO'S ELECTRONIC BIDDING SITE, PLANETBIDS

http://www.sandiego.gov/cip/bidopps

ENGINEER OF WORK

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

1) Registered Engineer	1/9/2024 Date	Seal:
2) For City Engineer	01/10/2024 Date	Seal:

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REQUIRED DOCUMENTS SCHEDULE DURING BIDDING AND AWARDING

The Bidder's attention is directed to the City's Municipal Code §22.0807(d)(2) for important information regarding grounds for debarment for failure to submit required documentation.

The specified Equal Opportunity Contracting Program (EOCP) forms are available for download from the City's web site at:

http://www.sandiego.gov/eoc/forms/index.shtml

ITEM	DOCUMENT TO BE SUBMITTED	WHEN DUE	FROM
1.	Bid Bond (PDF via PlanetBids)	At Time of Bid	ALL BIDDERS
2.	Contractors Certification of Pending Actions	At Time of Bid	ALL BIDDERS
3.	List of Subcontractors for Alternate Items	At Time of Bid	ALL BIDDERS
4.	Mandatory Disclosure of Business Interests	At Time of Bid	ALL BIDDERS
5.	Debarment and Suspension Certification for Prime Contractors	At Time of Bid	ALL BIDDERS
6.	Debarment and Suspension Certification for Subcontractors, Suppliers & Mfgrs	At Time of Bid	ALL BIDDERS
7.	Bid Bond (Original)	By 5 PM 1 working day after bid opening	ALL BIDDERS
8.	SLBE Good Faith Effort Documentation	By 5 PM 3 working days after bid opening	ALL BIDDERS
9.	Form AA60 – List of Work Made Available	By 5 PM 3 working days after bid opening with Good Faith Effort (GFE) documentation	ALL BIDDERS
10.	Phased Funding Schedule Agreement	Within 10 working days of the Notice of Intent to Award	AWARDED BIDDER
11.	If the Contractor is a Joint Venture: • Joint Venture Agreement • Joint Venture License	Within 10 working days of receipt by bidder of contract forms	AWARDED BIDDER

ITEM	DOCUMENT TO BE SUBMITTED	WHEN DUE	FROM
12.	Payment & Performance Bond: Certificates of Insurance & Endorsements	Within 10 working days of receipt by bidder of contract forms and NOI	AWARDED BIDDER
13.	In-Use Off-Road Diesel Fueled Fleet Regulation (OFF-ROAD REGULATION) Compliance (CARB)	Within 10 working days of receipt by bidder of contract forms and NOI	AWARDED BIDDER
14.	Signed Contract Agreement Page	Within 3 working days of receipt by bidder of Contract Agreement	AWARDED BIDDER
15.	Listing of "Other Than First Tier" Subcontractors	Within 10 working days of receipt by bidder of contract forms	AWARDED BIDDER

NOTICE INVITING BIDS

1. **SUMMARY OF WORK:** This is the City of San Diego's (City) solicitation process to acquire Construction services for **Water and Sewer Group 965.** For additional information refer to Attachment A.

2. **FULL AND OPEN COMPETITION:** This solicitation is subject to full and open competition and may be bid by Contractors on the City's approved Prequalified Contractors List. For information regarding the Contractors Prequalified list visit the City's web site: http://www.sandiego.gov.

3. **ESTIMATED CONSTRUCTION COST:** The City's estimated construction cost for this project is **$23,800,000**.

4. **BID DUE DATE AND TIME ARE: FEBRUARY 21, 2024** at **2:00 PM**.

5. **PREVAILING WAGE RATES APPLY TO THIS CONTRACT:** Refer to Attachment D.

6. **LICENSE REQUIREMENT**: To be eligible for award of this contract, Prime contractor must possess the following licensing classification: **A or (C-34 and C-42)**

7. **SUBCONTRACTING PARTICIPATION PERCENTAGES**: Subcontracting participation percentages apply to this contract.

7.1. 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 **9.8%**
2. ELBE participation **12.5%**
3. Total mandatory participation **22.3%**

7.2. The current list of Certified SLBE/ELBE Firms to be used for outreach for this project is posted to the Documents tab on Planetbids.

7.3. The Bid may be declared non-responsive if the Bidder fails to meet the following requirements:

7.3.1. Include SLBE-ELBE certified subcontractors at the overall mandatory participation percentage identified in this document; OR

7.3.2. Submit Good Faith Effort (GFE) documentation, saved in searchable Portable Document Format (PDF), demonstrating the Bidder made a good faith effort to conduct outreach to and include SLBE-ELBE Subcontractors as required in

this solicitation by 5 PM 3 Working Days after the Bid opening if the overall mandatory participation percentage is not met.

All submittals in searchable PDF shall be submitted electronically within the prescribed time identified in the contract documents via PlanetBids by invitation to the point of contact named in the bid provided by the Contract Specialist to all bidders.

8. PRE-BID MEETING:

8.1. ENCOURAGED ONLINE PRE-BID MEETING:

Prospective Bidders are **encouraged** to attend the Pre-Bid Meeting.

The Pre-Bid Meeting will be held on **Thursday, February 1, 2024,** at **10:00 AM** (PDT) at:

Microsoft Teams meeting

Join on your computer, mobile app or room device

Click here to join the meeting

Meeting ID: 245 448 102 838

Passcode: EGgLuZ

Download Teams | Join on the web

Or call in (audio only)

+1 945-468-5511,,78889511# United States, Dallas

Phone Conference ID: 788 895 11#

Find a local number | Reset PIN

Learn More | Meeting options

Please Note: You will need to join the meeting with a computer, tablet or smartphone with the **Microsoft Teams** in order to sign in via the Chat feature as attendance at the meeting will be evidenced by the Chat sign-in. The Chat feature will also be used for attendees to ask any questions.

The purpose of the meeting is to discuss the scope of the Project, submittal requirements, and any Equal Opportunity Contracting Program requirements and reporting procedures.

Upon entering the meeting, all attendees must use the chat feature to sign in with the following information: Name of firm, Attendee's name, Phone number and Email address.

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 bids and determination of the apparent low bidder, the City will prepare the contract documents for execution within approximately 21 days of the date of the bid opening. The City will then award the contract upon 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 by the City Attorney's Office.

9.4. The low Bid will be determined by the Base Bid plus all the 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.

10. SUBMISSION OF QUESTIONS:

10.1. The Director (or Designee) of the Purchasing & Contracting 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. Any questions related to this solicitation shall be submitted to:

RMcMinn@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:

PHASED FUNDING: This contract may be subject to phased funding, for 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.

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.

1.2. The completed application must be submitted online no later than 2 weeks prior to the bid opening.

1.3. **Joint Venture Bidders Cumulative Maximum Bidding Capacity:** For projects with an engineer's estimate of $30,000,000 or greater, Joint Ventures submitting bids may be deemed responsive and eligible for award if the cumulative maximum bidding capacity of the individual Joint Venture entities is equal to or greater than the total amount proposed.

1.3.1. Each of the entities of the Joint Venture must have been previously prequalified at a minimum of $15,000,000.

1.3.2. Bids submitted with a total amount proposed of less than $30,000,000 are not eligible for Cumulative Maximum Bidding Capacity prequalification. To be eligible for award in this scenario, the Joint Venture itself or at least one of the Joint Venture entities must have been prequalified for the total amount proposed.

1.3.3. Bids submitted by Joint Ventures with a total amount proposed of $30,000,000 or greater on a project with an engineer's estimate of less than $30,000,000 are not eligible for Cumulative Maximum Bidding Capacity prequalification.

1.3.4. The Joint Venture designated as the Apparent Low Bidder shall provide evidence of its corporate existence and furnish good and approved bonds in the name of the Joint Venture within 14 Calendar Days of receipt by the Bidder of a form of contract for execution.

1.4. Complete information and links to the on-line prequalification application are available at:

http://www.sandiego.gov/cip/bidopps/prequalification

1.5. Due to the City's responsibility to protect the confidentiality of the contractors' information, 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 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 who 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 Purchasing & Contracting Department, Public Works Division Contract Specialist listed on 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 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

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 14 Calendar Days after receiving the Contract forms.

7. INSURANCE REQUIREMENTS:

7.1. 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.

7.2. Refer to sections 5-4, "INSURANCE" of the Supplementary Special Provisions (SSP) for the insurance requirements which must be met.

8. 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") http://www.greenbookspecs.org/	2021	ECPI010122-01
City of San Diego Standard Specifications for Public Works Construction ("The WHITEBOOK")* https://www.sandiego.gov/ecp/edocref/greenbook	2021	ECPI010122-02
City of San Diego Standard Drawings* https://www.sandiego.gov/ecp/edocref/standarddraw	2021	ECPI010122-03
Citywide Computer Aided Design and Drafting (CADD) Standards https://www.sandiego.gov/ecp/edocref/drawings	2018	PWPI010119-04
California Department of Transportation (CALTRANS) Standard Specifications https://dot.ca.gov/programs/design/july-2023-ccs-standard-plans-and-standard-specifications	2023	ECPD092023-05

Title	Edition	Document Number
CALTRANS Standard Plans https://dot.ca.gov/programs/design/july-2023-ccs-standard-plans-and-standard-specifications	2023	ECPD092023-06
California Manual on Uniform Traffic Control Devices Revision 7 (CA MUTCD Rev 7) https://dot.ca.gov/programs/safety-programs/camutcd	2014	ECPD081023-07
NOTE: *Available online under Engineering Documents and References at: https://www.sandiego.gov/ecp/edocref/ *****Electronic updates to the Standard Drawings may also be found in the link above		

9. **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 addenda are made effective as though originally issued with the Bid. The Bidders shall acknowledge the receipt of Addenda at the time of bid submission.

10. **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.

11. **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.

12. **SUBCONTRACTOR INFORMATION:**

12.1. **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 state the **DIR REGISTRATION NUMBER** for all subcontractors and 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 – Section 3-2, "Self-Performance", 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.

Additionally, pursuant to California Senate Bill 96 and in accordance with the requirements of Labor Code sections 1771.1 and 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 California Department of Industrial Relations (DIR). **The Bidder shall provide the name, address, license number, DIR registration number of any Subcontractor – regardless of tier** - who will perform work, labor, render services or specially fabricate and install a portion [type] of the work or improvement pursuant to the contract.

12.2. 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), DIR REGISTRATION NUMBER** 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.

12.3. LISTING OF SUBCONTRACTORS OR SUPPLIERS FOR ALTERNATES. For subcontractors or suppliers to be used on alternate items, bidder shall use the provided **"Subcontractors For Alternates"** form and shall indicate for each alternate subcontract whether it is an additive or deductive alternate; the subcontractor's name, location, phone number, email address, CA license number, and DIR registration number; whether the subcontractor is a designer, constructor or supplier; the type of work the subcontractor will be performing; and the dollar value of the subcontract for that alternate item. Failure to comply with this requirement may result in the bid being rejected as nonresponsive and ineligible for award.

13. SUBMITTAL OF "OR EQUAL" ITEMS: See Section 4-6, "Trade Names" in The WHITEBOOK and as amended in the SSP.

14. AWARD:

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

14.2. 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.

14.3. 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.

15. SUBCONTRACT LIMITATIONS: The Bidder's attention is directed to Standard Specifications for Public Works Construction, Section 3-2, "SELF-PERFORMANCE" 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.

16. 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 Purchasing & Contracting Department, Public Works Division.

17. ONLY ONE BID PER CONTRACTOR SHALL BE ACCCEPTED: 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.

18. 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.

19. BIDDER'S GUARANTEE OF GOOD FAITH (BID SECURITY) FOR DESIGN-BID-BUILD CONTRACTS:

19.1. 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.

19.2. 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.

19.3. 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.

19.4. 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. By 5PM, 1 working day after the bid opening date, all bidders must provide the City with the original bid security.

19.5. Failure to submit the electronic version of the bid security at the time of bid submission AND failure to provide the original by 5PM, 1 working day after the bid opening date shall cause the bid to be rejected and deemed **non-responsive**.

Original Bid Bond shall be submitted to:
Purchasing & Contracting Department, Public Works Division
1200 3rd Ave., Suite 200, MS 56P
San Diego, California, 92101
To the Attention of the Contract Specialist on the Front Page of this solicitation.

20. AWARD OF CONTRACT OR REJECTION OF BIDS:

20.1. This contract may be awarded to the lowest responsible and reliable Bidder.

20.2. Bidders shall complete ALL eBid forms as required by this solicitation. Incomplete eBids will not be accepted.

20.3. 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.

20.4. 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.

20.5. 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.

20.6. 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.

20.7. 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.

20.8. 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.

21. BID RESULTS:

21.1. 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.

21.2. 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.

22. THE CONTRACT:

22.1. 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.

22.2. 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.

22.3. 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.

22.4. 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.

22.5. 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 by 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.

23. 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 3-9, "TECHNICAL STUDIES AND SUBSURFACE DATA", 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.

24. CITY STANDARD PROVISIONS: This contract is subject to the following standard provisions. See The WHITEBOOK for details.

24.1. The City of San Diego Resolution No. R-277952 adopted on May 20, 1991 for a Drug-Free Workplace.

24.2. The City of San Diego Resolution No. R-282153 adopted on June 14, 1993 related to the Americans with Disabilities Act.

24.3. The City of San Diego Municipal Code §22.3004 for Contractor Standards.

24.4. The City of San Diego's Labor Compliance Program and the State of California Labor Code §§1771.5(b) and 1776.

24.5. 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.

24.6. The City's Equal Benefits Ordinance (EBO), Chapter 2, Article 2, Division 43 of The San Diego Municipal Code (SDMC).

24.7. The City's Information Security Policy (ISP) as defined in the City's Administrative Regulation 90.63.

25. PRE-AWARD ACTIVITIES:

25.1. The contractor selected by the City to execute a contract for this Work shall submit the required documentation as specified herein and in the Notice of Intent to Award. Failure to provide the information as specified may result in the Bid being rejected as **non-responsive.**

25.2. 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.

BOND NO. 7901177661
PREMIUM: $73,754.00
PREMIUM IS FOR CONTRACT TERM AND IS SUBJECT TO ADJUSTMENT BASED ON FINAL CONTRACT PRICE

PROJECT: WATER AND SEWER GROUP 965;
K-24-2003-DBB-3-A

PERFORMANCE BOND, LABOR AND MATERIALMEN'S BOND

FAITHFUL PERFORMANCE BOND AND LABOR AND MATERIALMEN'S BOND:

Burtech Pipeline Incorporated, a corporation, as principal, and NATIONWIDE MUTUAL INSURANCE COMPANY, a corporation authorized to do business in the State of California, as Surety, hereby obligate themselves, their successors and assigns, jointly and severally, to The City of San Diego a municipal corporation in the sum of Fifteen Million Three Hundred Seventy Seven Thousand Four Hundred Ninety Seven Dollars and Eighty Four Cents ($15,377,497.84) for the faithful performance of the annexed contract, and in the sum of Fifteen Million Three Hundred Seventy Seven Thousand Four Hundred Ninety Seven Dollars and Eighty Four Cents ($15,377,497.84) 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.

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

The Surety expressly agrees that the City of San Diego may reject any contractor or subcontractor which may be proposed by Surety in fulfillment of its obligations in the event of default by the Principal.

The Surety shall not utilize the Principal in completing the improvements and work specified in the Agreement in the event the City terminates the Principal for default.

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

THE CITY OF SAN DIEGO

By: _____

Print Name: Claudia C. Abarca
Director
Purchasing & Contracting Department

Date: June 25, 2024

APPROVED AS TO FORM

Mara W. Elliott, City Attorney

By: _____

Print Name: _____
Deputy City Attorney

Date: 6/25/24

CONTRACTOR BURTECH PIPELINE, INCORPORATED

By: _____

Print Name: DOMINIC J. BURTECH, JR., PRESIDENT

Date: 4/18/2024

SURETY NATIONWIDE MUTUAL INSURANCE COMPANY

By: _____
Attorney-In-Fact

Print Name: MARK D. IATAROLA, ATTORNEY-IN-FACT

Date: APRIL 16, 2024

500 NORTH BRAND BOULEVARD, SUITE 2000
GLENDALE, CA 91203
Local Address of Surety

949/606-3819
Local Phone Number of Surety

$73,754.00 PREMIUM IS FOR CONTRACT TERM AND IS SUBJECT TO ADJUSTMENT BASED ON FINAL CONTRACT PRICE
Premium

7901177661
Bond Number

CALIFORNIA ALL-PURPOSE 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 4/18/2024 (Date) before me, Arthur Patrick Arquilla, Notary Public (Here Insert Name and Title of the Officer)

Personally appeared Dominic Burtech (Name(s) of Signer(s))

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

ARTHUR PATRICK ARQUILLA
COMM. #2386204
NOTARY PUBLIC-CALIFORNIA
SAN DIEGO COUNTY
My Comm. Expires January 7 2026

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

WITNESS my hand and official seal.

Signature _____ (Signature of Notary Public)

Place Notary Seal Above

---------- OPTIONAL ----------

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

Description of Attached Document

Title or Type of Document _____ Document Date _____

Number of Pages _____ Signer(s) Other Than Named Above _____

Capacity(ies) Claimed by Signer(s)

Signer's Name _____
☐ Corporate Officer—Title(s) _____
☐ Partner ☐ Limited ☐ General
☐ Individual ☐ Attorney in Fact
☐ Trustee ☐ Guardian or Conservator
☐ Other _____
Signer Is Representing _____

Signer's Name _____
☐ Corporate Officer—Title(s) _____
☐ Partner ☐ Limited ☐ General
☐ Individual ☐ Attorney in Fact
☐ Trustee ☐ Guardian or Conservator
☐ Other _____
Signer Is Representing _____

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT CIVIL CODE § 1189

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

State of California
County of SAN DIEGO

On 4/16/2024 *Date* before me, TRACY RODRIGUEZ, NOTARY PUBLIC *Here Insert Name and Title of the Officer*,

personally appeared MARK D. IATAROLA *Name(s) of Signer(s)*,

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

TRACY RODRIGUEZ
Notary Public - California
San Diego County
Commission # 2476520
My Comm. Expires Jan 11, 2028

Place Notary Seal and/or Stamp Above

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

WITNESS my hand and official seal.

Signature _____
Signature ~~of~~ Notary Public

OPTIONAL

Completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document

Title or Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: MARK D. IATAROLA	Signer's Name: _____
☐ Corporate Officer – Title(s): _____	☐ Corporate Officer – Title(s): _____
☐ Partner – ☐ Limited ☐ General	☐ Partner – ☐ Limited ☐ General
☐ Individual ☒ Attorney in Fact	☐ Individual ☐ Attorney in Fact
☐ Trustee ☐ Guardian of Conservator	☐ Trustee ☐ Guardian of Conservator
☐ Other: _____	☐ Other: _____
Signer is Representing: _____	Signer is Representing: _____

Power of Attorney

KNOW ALL MEN BY THESE PRESENTS THAT:

Nationwide Mutual Insurance Company, an Ohio corporation

hereinafter referred to severally as the "Company" and collectively as "the Companies" does hereby make, constitute and appoint:

HELEN MALONEY; JOHN G MALONEY; MARK D IATAROLA; SANDRA FIGUEROA; TRACY LYNN RODRIGUEZ;

each in their individual capacity, its true and lawful attorney-in-fact, with full power and authority to sign, seal, and execute on its behalf any and all bonds and undertakings, and other obligatory instruments of similar nature, in penalties not exceeding the sum of

UNLIMITED

and to bind the Company thereby, as fully and to the same extent as if such instruments were signed by the duly authorized officers of the Company; and all acts of said Attorney pursuant to the authority given are hereby ratified and confirmed.

This power of attorney is made and executed pursuant to and by authority of the following resolution duly adopted by the board of directors of the Company:

"RESOLVED, that the president, or any vice president be, and each hereby is, authorized and empowered to appoint attorneys-in-fact of the Company, and to authorize them to execute and deliver on behalf of the Company any and all bonds, forms, applications, memorandums, undertakings, recognizances, transfers, contracts of indemnity, policies, contracts guaranteeing the fidelity of persons holding positions of public or private trust, and other writings obligatory in nature that the business of the Company may require; and to modify or revoke, with or without cause, any such appointment or authority; provided, however, that the authority granted hereby shall in no way limit the authority of other duly authorized agents to sign and countersign any of said documents on behalf of the Company."

"RESOLVED FURTHER, that such attorneys-in-fact shall have full power and authority to execute and deliver any and all such documents and to bind the Company subject to the terms and limitations of the power of attorney issued to them, and to affix the seal of the Company thereto; provided, however, that said seal shall not be necessary for the validity of any such documents."

This power of attorney is signed and sealed under and by the following bylaws duly adopted by the board of directors of the Company.

Execution of Instruments. Any vice president, any assistant secretary or any assistant treasurer shall have the power and authority to sign or attest all approved documents, instruments, contracts, or other papers in connection with the operation of the business of the company in addition to the chairman of the board, the chief executive officer, president, treasurer or secretary; provided, however, the signature of any of them may be printed, engraved, or stamped on any approved document, contract, instrument, or other papers of the Company.

IN WITNESS WHEREOF, the Company has caused this instrument to be sealed and duly attested by the signature of its officer the 20th day of August, 2021.

Antonio C. Albanese, **Vice President** of Nationwide Mutual Insurance Company

ACKNOWLEDGMENT

STATE OF NEW YORK COUNTY OF NEW YORK: ss

On this 20th day of August, 2021, before me came the above-named officer for the Company aforesaid, to me personally known to be the officer described in and who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, deposes and says, that he is the officer of the Company aforesaid, that the seal affixed hereto is the corporate seal of said Company, and the said corporate seal and his signature were duly affixed and subscribed to said instrument by the authority and direction of said Company.

Stephanie Rubino McArthur
Notary Public, State of New York
No. 02MC6270117
Qualified in New York County
Commission Expires October 19, 2024

Notary Public
My Commission Expires
October 19, 2024

CERTIFICATE

I, Laura B. Guy, Assistant Secretary of the Company, do hereby certify that the foregoing is a full, true and correct copy of the original power of attorney issued by the Company; that the resolution included therein is a true and correct transcript from the minutes of the meetings of the boards of directors and the same has not been revoked or amended in any manner; that said Antonio C. Albanese was on the date of the execution of the foregoing power of attorney the duly elected officer of the Company, and the corporate seal and his signature as officer were duly affixed and subscribed to the said instrument by the authority of said board of directors; and the foregoing power of attorney is still in full force and effect.

IN WITNESS WHEREOF, I have hereunto subscribed my name as Assistant Secretary, and affixed the corporate seal of said Company this 16TH day of APRIL, 2024.

Assistant Secretary

BDJ 1(08-21)00

ATTACHMENTS

ATTACHMENT A

SCOPE OF WORK

SCOPE OF WORK

1. **SCOPE OF WORK:** Construction of Water and Sewer Group 965 consists of the installation of sixteen-inch (16") water mains, twelve-inch (12") water mains, water services, fire hydrants, eight-inch (8"), ten-inch (10") and twelve-inch (12") sewer mains, sewer manholes, sewer laterals, replacement and upgrading of a pressure reducing station, and all other work and appurtenances. Additive alternate scope of work are the following: 493.99 feet (0.09 miles) of 8" PVC sewer mains, two sewer manholes, and corresponding sewer laterals, 486.30 feet (0.09 miles) of 12" PVC water mains and corresponding water services, asphalt cement for the overlay for streets, the signing, striping, and electrical improvements.

1.1. The Work shall be performed in accordance with:

1.1.1. The Notice Inviting Bids and Plans numbered **37869-1-D** through **37869-51-D**, Traffic Control Plans numbered **37869-TC1-D** through **37869-TC24-D**, and Striping, Signing and Electrical Improvement Plans **100744-1-D** through **100744-11-D**, inclusive.

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

See **Appendix E – Location Maps**.

3. **CONTRACT TIME:** The Contract Time for completion of the Work, including the Pressure Reducing Station Testing, shall be **480 Working Days**.

ATTACHMENT B

PHASED FUNDING PROVISIONS

PHASED FUNDING PROVISIONS

1. PRE-AWARD

1.1. Within 10 Working Days of the Notice of Intent to Award, the Contractor must contact the Project Manager to discuss fund availability for each phase and shall also submit the following:

1.1.1. Construction Cost Loaded Schedule in accordance with 6-1, "CONSTRUCTION SCHEDULE AND COMMENCEMENT OF THE WORK" and 7-3, "PAYMENT.

1.2. Contractor's failure to perform any of the following may result cancelling the award of the Contract:

1.2.1. Meeting with the City's Project Manager to discuss the Phased Funding Schedule.

1.2.2. Agreeing to a Phased Funding Schedule within **thirty** days of meeting with the City's Project Manager.

2. POST-AWARD

2.1. Do not start any construction activities for the next phase until the Notice to Proceed (NTP) has been issued by the City. The City will issue a separate NTP for each phase.

2.2. The City may issue the NTP for a subsequent phase before the completion of the preceding phase.

PHASED FUNDING PROVISIONS

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1.2.1. Meeting with the City's Project Manager to discuss the Phased Funding Schedule.

1.2.2. Agreeing to a Phased Funding Schedule within **thirty** days of meeting with the City's Project Manager.

2. POST-AWARD

2.1. Do not start any construction activities for the next phase until the Notice to Proceed (NTP) has been issued by the City. The City will issue a separate NTP for each phase.

2.2. The City may issue the NTP for a subsequent phase before the completion of the preceding phase.

PHASED FUNDING SCHEDULE AGREEMENT

The particulars left blank below, such as the total number of phases and the amounts assigned to each phase, will be completed with funding specific information from the Pre-Award Schedule and Construction Cost Loaded Schedule submitted to and approved by the City.

BID NUMBER: K-24-2003-DBB-3-A

CONTRACT OR TASK TITLE: Water and Sewer Group 965

CONTRACTOR: Burtech Pipeline Incorporated

Funding Phase	Phase Description	Phase Start	Phase Finish	Not-to-Exceed Amount
1	The work to be completed in Phase 1 Sewer shall include bonds, mobilization, installation of sewer mains, manholes, sewer laterals and associated appurtenances per contract and specifications on Plan Sheet C01. The work to be completed in Phase 1 Water shall include bonds, mobilization, cut-in tees, valves and installation of steel water mains up to PRS and associated appurtenances per contract and specification on Plan Sheet C26.	NTP	10/31/2024	$1,000,000.00 (S) B-12048 $1,000,000.00 (W) B-12057 Total: $2,000,000.00
2	The work to be completed in Phase 2 Sewer shall include installation of sewer mains, manholes, sewer laterals and associated appurtenances per contract and specifications on Plan Sheet C02, C03, C04, C05. The work to be completed in Phase 2 Water shall include continuing PRS station installations including electrical and associated appurtenances to complete the Carmel Mountain PRS on Plan Sheet C26, C27, M1-M4, E1-E7. Phase 2 Water will also include installation of 16" water mains and associated appurtenances per contract and specification on Plan Sheet C09, C10 & C11.	11/01/2024	07/31/2025	$2,500,000.00 (S) B-12048 $4,500,000.00 (W) B-12057 Total: $7,000,000.00
3	The work to be completed in Phase 3 Sewer and Phase 3 Water shall include the remaining of construction activities associated with both Sewer and Water Scopes including surface restorations, curb ramps, etc. complete per plans and specifications. Striping, Signage, and Electrical Improvements. Funding for Base Repairs	08/01/2025	NOC	Total: $6,377,497.84 $922,162.00 (S) B-12048 $4,024,155 .00 (W) B-12057 $669,920.84 (TD) $761,260.00 (TD)
			Contract Total	$ 15,377,497.84

Notes:

1) WHITEBOOK section 7-3.10, "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 written modifications to the CONTRACT.

CITY OF SAN DIEGO

PRINT NAME: Nabil Batta
Construction Senior Engineer

Signature: Nabil Batta

Date: 5-23-2024

PRINT NAME: Alex Sleiman
Design Senior Engineer

Signature:

Date: 04/23/2024

CONTRACTOR

PRINT NAME: DOMINIC J. BURTECH

Title: PRESIDENT & CEO

Signature:

Date: 04/22/2024

ATTACHMENT C

EQUAL OPPORTUNITY CONTRACTING PROGRAM

EQUAL OPPORTUNITY CONTRACTING PROGRAM (EOCP)

SECTION A - GENERAL REQUIREMENTS

A. INTRODUCTION.

1. This document sets forth the following specifications:
   a) The City's general EOCP requirements for all Construction Contracts.
   b) Special Provisions for Contracts subject to SLBE and ELBE requirements only.
2. Additional requirements may apply for state or federally funded projects.
3. These requirements shall be included as Contract provisions for all Subcontracts.
4. The City specified forms, instructions, and guides are available for download from the EOCP's web site at: http://www.sandiego.gov/eoc/forms/index.shtml

B. GENERAL.

1. The City of San Diego promotes equal employment and subcontracting opportunities.
2. The City is committed to ensuring that taxpayer dollars spent on public Contracts are not paid to businesses that practice discrimination in employment or subcontracting.
3. The City encourages all companies seeking to do business with the City to share this commitment.

C. DEFINITIONS.

1. For the purpose of these requirements: Terms "Bid" and "Proposal", "Bidder" and "Proposer", "Subcontractor" and "Subconsultant", "Contractor" and "Consultant", "Contractor" and "Prime Contractor", "Consultant" and "Professional Service Provider", "Suppliers" and "Vendors", "Suppliers" and "Dealers", and "Suppliers" and "Manufacturers" may have been used interchangeably.
2. The following definitions apply:
   a) **Emerging Business Enterprise (EBE)** - A for-profit business that is independently owned and operated; that is not a subsidiary or franchise of another business and whose gross annual receipts do not exceed the amount set by the City Manager and that meets all other criteria set forth in regulations implementing Municipal Code Chapter 2, Article 2, Division 36. The City Manager shall review the threshold amount for EBEs on an annual basis and adjust as necessary to reflect changes in the marketplace.
   b) **Emerging Local Business Enterprise (ELBE)** - A Local Business Enterprise that is also an Emerging Business Enterprise.

c) **Minority Business Enterprise (MBE)** - A certified business that is at least fifty-one percent (51%) owned by one or more minority individuals, or, in the case of a publicly owned business at least fifty-one percent (51%) of the stock is owned by one or more minority individuals; and (2) whose daily business operations are managed and directed by one or more minorities owners. Minorities include the groups with the following ethnic origins: African, Asian Pacific, Asian Subcontinent, Hispanic, Native Alaskan, Native American, and Native Hawaiian.

d) **Women Business Enterprise (WBE)** - A certified business that is at least fifty-one percent (51%) owned by a woman or women, or, in the case of a publicly owned business at least fifty-one percent (51%) of the stock is owned by one or more women; and (2) whose daily business operations are managed and directed by one or more women owners.

e) **Disadvantaged Business Enterprise (DBE)** - a certified business that is at least fifty-one percent (51%) owned by socially and economically disadvantaged individuals, or, in the case of a publicly owned business at least fifty-one percent (51%) of the stock is owned by one or more socially and economically disadvantaged individuals; and (2) whose daily business operations are managed and directed by one or more socially and economically disadvantaged owners.

f) **Disabled Veteran Business Enterprise (DVBE)** - A certified business that is at least fifty-one percent (51%) owned by one or more disabled veterans; and (2) business operations must be managed and controlled by one or more disabled veterans. Disabled Veteran is a veteran of the U.S. military, naval, or air service; the veteran must have a service-connected disability of at least 10% or more; and the veteran must reside in California.

g) **Other Business Enterprise (OBE)** - Any business which does not otherwise qualify as a Minority, Woman, Disadvantaged, or Disabled Veteran Business Enterprise.

h) **Small Business Enterprise (SBE)** - A for-profit business that is independently owned and operated; that is not a subsidiary or franchise of another business and whose gross annual receipts do not exceed the amount set by the City Manager and that meets all other criteria set forth in regulations implementing Municipal Code Chapter 2, Article 2, Division 36. The City Manager shall review the threshold amount for SBEs on an annual basis and adjust as necessary to reflect changes in the marketplace. A business certified as a Micro Business (MB) or a Disabled Veteran Business Enterprise (DVBE) by the State of California and that has provided proof of such certification to the City Manager shall be deemed to be an SBE.

i) **Small Local Business Enterprise (SLBE)** - A Local Business Enterprise that is also a Small Business Enterprise.

D. CITY'S EQUAL OPPORTUNITY COMMITMENT.

1. **Nondiscrimination in Contracting Ordinance.**

a) You, your Subcontractors, and Suppliers shall comply with the requirements of the City's Nondiscrimination in Contracting Ordinance, San Diego Municipal Code §§22.3501 through 22.3517.

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

You shall include the foregoing clause in all Contracts between you and your Subcontractors and Suppliers.

b) **Disclosure of Discrimination Complaints.** As part of its Bid or Proposal, you shall provide to the City a list of all instances within the past 10 years where a complaint was filed or pending against you in a legal or administrative proceeding alleging that you discriminated against your employees, Subcontractors, vendors, or suppliers, and a description of the status or resolution of that complaint, including any remedial action taken.

c) Upon the City's request, You agree to provide to the City, within 60 Calendar Days, a truthful and complete list of the names of all Subcontractors and Suppliers that you have used in the past 5 years on any of your Contracts that were undertaken within the San Diego County, including the total dollar amount paid by you for each Subcontract or supply Contract.

d) You further agree 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. You understand and agree that violation of this clause shall be considered a material breach of the Contract and may result in remedies being ordered against you up to and including contract termination, debarment, and other sanctions for the violation of the provisions of the Nondiscrimination in Contracting Ordinance. You further understand and agree 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. You, your Subcontractors, and Suppliers shall comply with the City's Equal Employment Opportunity Outreach Program, San Diego Municipal Code §§22.2701 through 22.2707.

   You shall not discriminate against any employee or applicant for employment on any basis prohibited by law. You shall provide equal opportunity in all employment practices. You shall ensure that your Subcontractors comply with this program. Nothing in this section shall be interpreted to hold you liable for any discriminatory practices of your Subcontractors.

   You shall include the foregoing clause in all Contracts between you and your 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 to the City for approval as specified in the Notice of Intent to Award letter.

3. The selected Bidder shall submit an Equal Employment Opportunity Plan if a Work Force Report is submitted and if the City determines that there are under-representations when compared to County Labor Force Availability data.

4. If the selected Bidder submits an Equal Employment Opportunity Plan, it shall include the following assurances:

   a) You shall maintain a working environment free of discrimination, harassment, intimidation, and coercion at all Sites and in all facilities at which your employees are assigned to Work.

   b) You shall review your EEO Policy annually with all on-Site supervisors involved in employment decisions.

   c) You shall disseminate and review your EEO Policy with all employees at least once a year, post the policy statement and EEO posters on all company bulletin boards and job sites, and document every dissemination, review, and posting with a written record to identify the time, place, employees present, subject matter, and disposition of meetings.

   d) You shall review, at least annually, all supervisors' adherence to and performance under the EEO Policy and maintain written documentation of these reviews.

   e) You shall discuss your EEO Policy Statement with Subcontractors with whom you anticipate doing business, including the EEO Policy Statement in your Subcontracts, and provide such documentation to the City upon request.

f) You shall document and maintain a record of all Bid solicitations and outreach efforts to and from Subcontractors, contractor associations, and other business associations.

g) You shall disseminate your EEO Policy externally through various media, including the media of people of color and women, in advertisements to recruit. Maintain files documenting these efforts and provide copies of these advertisements to the City upon request.

h) You shall disseminate your EEO Policy to union and community organizations.

i) You shall provide immediate written notification to the City when any union referral process has impeded your efforts to maintain your EEO Policy.

j) You shall maintain a current list of recruitment sources, including those outreaching to people of color and women, and provide written notification of employment opportunities to these recruitment sources with a record of the organizations' responses.

k) You shall maintain 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.

l) You shall encourage all present employees, including people of color and women employees, to recruit others.

m) You shall maintain all employment selection process information with records of all tests and other selection criteria.

n) You shall develop and maintain documentation for on-the-job training opportunities, participate in training programs, or both for all of your employees, including people of color and women, and establish apprenticeship, trainee, and upgrade programs relevant to your employment needs.

o) You shall conduct, at least annually, an inventory and evaluation of all employees for promotional opportunities and encourage all employees to seek and prepare appropriately for such opportunities.

p) You shall ensure that 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.

F. SUBCONTRACTING.

1. The City encourages all eligible business enterprises to participate in City contracts as a Contractor, Subcontractor, and joint venture partner with you, your Subcontractors, or your Suppliers. You are encouraged to take positive steps to diversify and expand your Subcontractor solicitation base and to offer

subcontracting opportunities to all eligible business firms including SLBEs, ELBEs, MBEs, WBEs, DBEs, DVBEs, and OBEs.

2. For Subcontractor participation level requirements, see the Contract Documents where applicable.

3. For the purposes of achieving the mandatory Subcontractor participation percentages, City percentage calculations will not account for the following:

   a) "Field Orders" and "City Contingency" Bid items.

   b) Alternate Bid items.

   c) Allowance Bid items designated as "EOC Type II".

4. Allowance Bid items designated as "EOC Type I" will be considered as part of the Base Bid and will be included in the percentage calculation.

5. Each joint venture partner shall be responsible for a clearly defined Scope of Work. In addition, an agreement shall be submitted and signed by all parties identifying the extent to which each joint venture partner shares in ownership, control, management, risk, and profits of the joint venture.

G. LISTS OF SUBCONTRACTORS AND SUPPLIERS.

1. You shall comply with the Subletting and Subcontracting Fair Practices Act, Public Contract Code §§4100 through 4113, inclusive.

2. You shall list all Subcontractors who will receive more than 0.5% of the total Bid amount or $10,000, whichever is greater on the form provided in the Contract Documents (Subcontractors list).

3. The Subcontractors list shall include the Subcontractor's name, telephone number including area code, physical address, Scope of Work, the dollar amount of the proposed Subcontract, the California contractor license number, the Public Works contractor registration number issued pursuant to Section 1725.5 of the Labor Code, and the Subcontractor's certification status with the name of the certifying agency.

4. The listed Subcontractor shall be appropriately licensed pursuant to Contractor License Laws.

5. For Design-Build Contracts, refer to the RFQ and RFP for each Project or Task Order.

H. SUBCONTRACTOR AND SUPPLIER SUBSTITUTIONS.

1. Listed Subcontractors and Suppliers shall not be substituted without the Express authorization of the City or its duly authorized agent.

2. Request for Subcontractor or Supplier substitution shall be made in writing to Purchasing & Contracting Department, Public Works Division, Attention Contract Specialist, 1200 3rd Ave., Suite 200, MS 56P, San Diego, CA 92101 with a copy to the Engineer.

3. The request shall include a thorough explanation of the reason(s) for the substitution, including dollar amounts and a letter from each substituted Subcontractor or Supplier stating that they (the Subcontractors or Suppliers) release all interest in working on the Project and written confirmation from the new Subcontractor or Supplier stating that they agree to work on the Project along with the dollar value of the Work to be performed.

4. Written approval of the substitution request shall be received by you or from the City or its authorized officer prior to any unlisted Subcontractor or Supplier performing Work on the Project.

5. Substitution of Subcontractors and Suppliers without authorization shall subject you to those penalties set forth in Public Contract Code §4110.

6. Requests for Supplier substitution shall be made in writing at least 10 Days prior to the provision of materials, supplies, or services by the proposed Supplier and shall include proof of written notice to the originally listed Supplier of the proposed substitution.

7. A Contractor whose Bid is accepted shall not:

    a) Substitute a person as Subcontractor or Supplier in place of the Subcontractor or Supplier listed in the original bid, except that the City, or it's duly authorized officer, may consent to the substitution of another person as a Subcontractor or Supplier in any of the following situations:

        i. When the Subcontractor or Supplier listed in the Bid, after having a reasonable opportunity to do so, fails or refuses to execute a written Contract for the scope of work specified in the subcontractor's bid and at the price specified in the subcontractor's bid, when that written contract, based upon the general terms, conditions, plans, and specifications for the project involved or the terms of the subcontractor's written bid, is presented to the subcontractor by the prime contractor.

        ii. When the listed Subcontractor or Supplier becomes insolvent or the subject of an order for relief in bankruptcy.

        iii. When the listed Subcontractor or Supplier fails or refuses to perform his or her subcontract.

        iv. When the listed Subcontractor fails or refuses to meet bond requirements as set forth in Public Contract Code §4108.

        v. When you demonstrate to the City or it's duly authorized officer, subject to the provisions set forth in Public Contract Code §4107.5, that the name of the Subcontractor was listed as the result of an inadvertent clerical error.

        vi. When the listed Subcontractor is not licensed pursuant to Contractor License Law.

vii. When the City, or it's duly authorized officer, determines that the Work performed by the listed Subcontractor or that the materials or supplies provided by the listed Supplier are substantially unsatisfactory and not in substantial accordance with the Plans and specifications or that the Subcontractor or Supplier is substantially delaying or disrupting the progress of the Work.

viii. When the listed Subcontractor is ineligible to work on a public works project pursuant to §§1777.1 or 1777.7 of the Labor Code.

ix. When the City or its duly authorized agent determines that the listed Subcontractor is not a responsible contractor.

b) Permit a Contract to be voluntarily assigned or transferred or allow it to be performed by anyone other than the original Subcontractor, Supplier listed in the original Bid without the consent of the City, or it's duly authorized officer.

c) Other than in the performance of "Change Orders" causing changes or deviations from the Contract, sublet or subcontract any portion of the Work, or contract for materials or supplies in excess of 0.5% of your total bid or $10,000, whichever is greater, as to which his or her original Bid did not designate a Subcontractor or Supplier.

8. Following receipt of notice from you of the proposed substitution of a Subcontractor or Supplier, the listed Subcontractor or Supplier who has been so notified shall have 5 Working Days within which to submit written objections to the substitution to the Contract Specialist with a copy to the Engineer. Failure to file these written objections shall constitute the listed Subcontractor or Supplier's consent to the substitution. If written objections are filed, the City shall give notice in writing of at least 5 Working Days to the listed Subcontractor or Supplier of a hearing by the City on your request for substitution.

I. PROMPT PAYMENT.

1. You or your Subcontractors shall pay to any subcontractor, not later than 7 Calendar Days of receipt of each progress payment, unless otherwise agreed to in writing, the respective amounts allowed you on account of the Work performed by the Subcontractors, to the extent of each Subcontractor's interest therein. In cases of Subcontractor performance deficiencies, you shall make written notice of any withholding to the Subcontractor with a copy to the Contracts Specialist. Upon correction of the deficiency, you shall pay the Subcontractor the amount previously withheld within 14 Calendar Days after payment by the City.

2. Any violation of California Business and Professions Code, §7108.5 concerning prompt payment to Subcontractors shall subject the violating Contractor or

Subcontractor to the penalties, sanctions, and other remedies of that section. This requirement shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to you or your Subcontractor in the event of a dispute involving late payment or nonpayment by the Prime Contractor, deficient subcontract performance, or noncompliance by a Subcontractor.

J. PROMPT PAYMENT OF FUNDS WITHHELD TO SUBCONTRACTORS.

1. The City will hold retention from you and will make prompt and regular incremental acceptances of portions, as determined by the Engineer, of the Work and pay retention to you based on these acceptances.
2. You or your Subcontractors shall return all monies withheld in retention from a Subcontractor within 30 Calendar Days after receiving payment for Work satisfactorily completed and accepted including incremental acceptances of portions of the Work by the City.
3. Federal law (49CFR26.29) requires that any delay or postponement of payment over 30 Calendar Days may take place only for good cause and with the City's prior written approval. Any violation of this provision by you or your Subcontractor shall subject you or your Subcontractor to the penalties, sanctions, and other remedies specified in §7108.5 of the Business and Professions Code.
4. These requirements shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to you or your Subcontractor in the event of a dispute involving late payment or nonpayment by you, deficient subcontract performance, or noncompliance by a Subcontractor.

K. CERTIFICATION.

1. The City accepts certifications of DBE, DVBE, MBE, SMBE, SWBE, or WBE by any of the following certifying agencies:
    a) Current certification by the State of California Department of Transportation (CALTRANS) as DBE, SMBE, or SWBE.
    b) Current MBE, WBE, or DVBE certification from the California Public Utilities Commission.
    c) DVBE certification is received from the State of California's Department of General Services, Office of Small and Minority Business.
    d) Current certification by the City of Los Angles as DBE, WBE, or MBE.
    e) Subcontractors' valid proof of certification status (copies of MBE, WBE, DBE, or DVBE certifications) shall be submitted as required.

L. CONTRACT RECORDS AND REPORTS.

1. You shall maintain records of all subcontracts and invoices from your Subcontractors and Suppliers for work on this project. Records shall show

name, telephone number including area code, and business address of each Subcontractor, Supplier, and joint venture partner, and the total amount actually paid to each firm. Project relevant records, regardless of tier, may be periodically reviewed by the City.

2. You shall retain all records, books, papers, and documents pertinent to the Contract for a period of not less than 5 years after Notice of Completion and allow access to said records by the City's authorized representatives.

3. You shall submit the following reports using the City's web-based contract compliance (Prism® portal):

    a. **Monthly Payment.** You shall submit Monthly Payment Reporting by the 10th day of the subsequent month. Incomplete and/or delinquent reporting may cause payment delays, non-payment of invoices, or both.

4. The records maintained under item 1, described above, shall be consolidated into a Final Summary Report, certified as correct by an authorized representative of the Contractor. The Final Summary Report shall include all subcontracting activities and be sent to the EOCP Program Manager prior to Acceptance. Failure to comply may result in assessment of liquidated damages or withholding of retention. The City will review and verify 100% of subcontract participation reported in the Final Summary Report prior to approval and release of final retention to you. In the event your Subcontractors are owed money for completed Work, the City may authorize payment to subcontractor via a joint check from the withheld retention.

EQUAL OPPORTUNITY CONTRACTING PROGRAM (EOCP)

SECTION B - SLBE-ELBE SUBCONTRACTING REQUIREMENTS

THESE SPECIAL PROVISIONS SUPPLEMENT THE POLICIES AND REQUIREMENTS ESTABLISHED BY THE CITY OF SAN DIEGO EQUAL OPPORTUNITY CONTRACTING PROGRAM SPECIFIED IN THE CITY'S GENERAL EOCP REQUIREMENTS.

A. GENERAL.

1. It is the City's policy to encourage greater availability, capacity development, and contract participation by SLBE and ELBE firms in City contracts. This policy is, in part, intended to further the City's compelling interest to stimulate economic development through the support and empowerment of the local community, ensure that it is neither an active nor passive participant in marketplace discrimination, and promote equal opportunity for all segments of the contracting community.

2. The City is committed to maximizing subcontracting opportunities for all qualified and available firms.

3. This policy applies to City-funded construction contracts. Bidders shall be fully informed of this policy as set forth in these specifications. Mandatory or voluntary subcontracting percentages, Bid Discounts, and restricted competitions are specified in the Contract Documents.

4. You shall make subcontracting opportunities available to a broad base of qualified Subcontractors and shall achieve the minimum SLBE-ELBE Subcontractor participation identified for your project.

5. Failure to subcontract the specified minimum (mandatory) percentages of the Bid to qualified available SLBE-ELBE Subcontractors will cause a Bid to be rejected as non-responsive unless the Bidder has demonstrated compliance with the affirmative steps as specified in the City's document titled "Small Local Business (SLBE) Program, INSTRUCTIONS FOR BIDDERS COMPLETING THE GOOD FAITH EFFORT SUBMITTAL" and has submitted documentation showing that all required positive efforts were made prior to the Bid submittal due date. The required Good Faith Effort (GFE) documentation shall be submitted to the Contract Specialist. The instructions for completing the good faith effort submittal can be found on the City's website:

   https://www.sandiego.gov/sites/default/files/legacy/eoc/pdf/slbegfeinst.pdf

6. The current list of certified SLBE-ELBE firms and information for completing the GFE submittal can be found on the City's EOC Department website:

   http://www.sandiego.gov/eoc/programs/slbe

7. These requirements may be waived, at the City's sole discretion, on projects deemed inappropriate for subcontracting participation.

B. DEFINITIONS.

1. The following definitions shall be used in conjunction with these specifications:

   a) **Bid Discount** – Additional inducements or enhancements in the bidding process that are designed to increase the chances for the selection of SLBE firms in competition with other firms.

   b) **Commercially Useful Function** – An SLBE-ELBE performs a commercially useful function when it is responsible for the execution of the Work and is carrying out its responsibilities by actually performing, managing, and supervising the Work involved. To perform a commercially useful function, the SLBE-ELBE shall also be responsible, with respect to materials and supplies used on the Contract, for negotiating price, determining quantity and quality, ordering the material, and installing (where applicable) and paying for the material itself.

      To determine whether an SLBE-ELBE is performing a commercially useful function, an evaluation will be performed of the amount of Work subcontracted, normal industry practices, whether the amount the SLBE-ELBE firm is to be paid under the contract is commensurate with the Work it is actually performing and the SLBE-ELBE credit claimed for its performance of the Work, and other relevant factors. Specifically, an SLBE-ELBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of meaningful and useful SLBE-ELBE participation, when in similar transactions in which SLBE-ELBE firms do not participate, there is no such role performed.

   c) **Good Faith Efforts (GFE)** – Documentation of the Bidder's intent to comply with SLBE Program goals and procedures included in the City's SLBE Program, Instructions for Completing Good Faith Effort Submittal available from the City's EOCP website or the Contract Specialist.

   d) **Independently Owned, Managed, and Operated** – Ownership of a SLBE-ELBE firm shall be direct, independent, and by individuals only. Business firms that are owned by other businesses or by the principals or owners of other businesses that cannot themselves qualify under the SLBE-ELBE eligibility requirements shall not be eligible to participate in the Program. Moreover, the day-to-day management of the SLBE-ELBE firm shall be direct and independent of the influence of any other businesses that cannot themselves qualify under the SLBE-ELBE eligibility requirements.

   e) **Joint Venture** – An association of two or more persons or business entities that is formed for the single purpose of carrying out a single defined business enterprise for which purpose they combine their

capital, efforts, skills, knowledge, or property. Joint ventures shall be established by written agreement to qualify for this program.

f) **Local Business Enterprise ("LBE")** – A firm having a Principal Place of Business and a Significant Employment Presence in San Diego County, California that has been in operation for 12 consecutive months and a valid business tax certificate. This definition is subsumed within the definition of Small Local Business Enterprise.

g) **Minor Construction Program** – A program developed for bidding exclusively among SLBE-ELBE Construction firms.

h) **Principal Place of Business** – A location wherein a firm maintains a physical office and through which it obtains no less than 50% of its overall customers or sales dollars.

i) **Protégé** – A firm that has been approved and is an active participant in the City's Mentor-Protégé Program and that has signed the required program participation agreement and has been assigned a mentor.

j) **Significant Employee Presence** – No less than 25% of a firm's total number of employees are domiciled in San Diego County.

C. SUBCONTRACTOR PARTICIPATION.

1. For the purpose of satisfying subcontracting participation requirements, only 1st tier SLBE–ELBE Subcontractors will be recognized as participants in the Contract according to the following criteria:

   a) For credit to be allowed toward a respective participation level, all listed SLBE-ELBE firms shall have been certified by the Bid due date.

   b) The Subcontractor shall perform a commercially useful function for credit to be allowed toward subcontractor participation levels. The Subcontractor shall be required by you to be responsible for the execution of a distinct element of the Work and shall carry out its responsibility by actually performing and supervising its own workforce.

   c) If the Bidder is seeking the recognition of materials, supplies, or both towards achieving any mandatory subcontracting participation level, the Bidder shall indicate on Form AA40 – Named Equipment/Material Supplier List with the Bid the following:

      i. If the materials or supplies are obtained from a SLBE-ELBE manufacturer, the Bidder will receive 100% of the cost of the materials or supplies toward SLBE participation. For the purposes of counting SLBE-ELBE participation, a manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the Contract and of the general character described by the specifications.

ii. If the materials or supplies are obtained from a SLBE-ELBE supplier, the Bidder will receive 60% of the cost of the materials or supplies toward SLBE participation. For the purposes of counting SLBE-ELBE participation a Supplier is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the Contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. To be a supplier, the firm shall be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question. A person may be a supplier in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating, or maintaining a place of business if the person both owns and operates distribution equipment for the products. Any supplementing of the suppliers' own distribution equipment shall be by a long-term lease agreement and shall not be on an ad hoc or contract-by-contract basis.

iii. If the materials or supplies are obtained from a SLBE-ELBE, which is neither a manufacturer nor a supplier, the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, fees or transportation charges for the delivery of materials or supplies required on a job site will be counted toward SLBE-ELBE participation, provided the fees are reasonable and not excessive as compared with fees customarily allowed for similar services. No portion of the cost of the materials and supplies themselves will be counted toward SLBE-ELBE participation.

d) If the Bidder is seeking the recognition of SLBE-ELBE Trucking towards achieving any mandatory subcontracting participation level, the Bidder shall indicate it on Form AA35 – List of Subcontractors with the Bid. The following factors will be evaluated in determining the credit to be allowed toward the respective participation level:

i. The SLBE-ELBE shall be responsible for the management and supervision of the entire trucking operation for which it is getting credit on a particular Contract and there shall not be a contrived arrangement for the purpose of counting SLBE-ELBE participation.

ii. The SLBE-ELBE shall itself own and operate at least 1 fully licensed, insured, and operational truck used on the Contract.

iii. The SLBE-ELBE receives credit for the total value of the transportation services it provides on the Contract using trucks it owns, insures, and operates using drivers it employs.

iv. The SLBE-ELBE may lease trucks from another SLBE-ELBE firm including an owner-operator who is certified as a SLBE-ELBE. The SLBE-ELBE who leases trucks from another SLBE-ELBE receives credit for the total value of the transportation services the lessee SLBE-ELBE provides on the contract.

v. The SLBE-ELBE may also lease trucks from a non-SLBE-ELBE firm, including an owner-operator. The SLBE-ELBE who leases trucks from a non-SLBE-ELBE is entitled to credit for the total value of transportation services provided by non-SLBE-ELBE lessees not to exceed the value of transportation services provided by SLBE-ELBE owned trucks on the contract. Additional participation by non-SLBE-ELBE lessees receive credit only for the fee or commission it receives as a result of the lease arrangement.

vi. A lease shall indicate that the SLBE-ELBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the SLBE-ELBE so long as the lease gives the SLBE-ELBE absolute priority for use of the leased truck.

D. SLBE-ELBE SUBCONTRACTOR PARTICIPATION PERCENTAGES.

1. Contracts valued at $1,500,000 and above will be considered Major Public Works Contracts and will include a mandatory Subcontractor participation requirement for SLBE–ELBE firms.

   a) The Bidder shall achieve the mandatory Subcontractor participation requirement or demonstrate GFE.

   b) The Bidders shall indicate the participation on Forms AA35 - List of Subcontractors and AA40 - Named Equipment/Material Supplier List as applicable regardless of the dollar value.

   c) An SLBE-ELBE Bidder may count its own participation toward achieving the mandatory goal as long as the SLBE-ELBE Bidder performs 51% of the Contract Price.

2.. Contracts Valued over $1,000,000 and under $1,500,000 will also be considered Major Public Works Contracts and will include the mandatory subcontractor participation requirements described above and the following:

   a) 5% bid discount for SLBE-ELBE firms.

   b) Non-certified Contractor will receive 5% bid discount if they achieve the specified mandatory Subcontracting participations.

   c) Bid discounts shall not apply if the award will result in a total contract cost of $50,000 in excess of the apparent lowest Bid.

d) In the event of a tie bid between a SLBE-ELBE Bidder and a non-SLBE-ELBE Bidder, the SLBE-ELBE Bidder will be awarded the Contract.

e) In the event of a tie bid between a discounted Bid and a non-discounted Bid, the discounted Bid will be awarded the Contract.

3. Contracts valued over $500,000 up to $1,000,000 will be considered Minor Public Works Contracts and will be awarded through a competitive Bid process open only to City certified SLBE-ELBE firms. If there are no bidders or no responsible bidders, the Contract will be made available to all Bidders and will be subject to requirements listed in items 1 and 2 for Major Public Works Contracts above.

4. Contracts valued at $500,000 and below will also be considered Minor Public Works Contracts and will be awarded through a competitive bid process open only to City certified ELBEs unless there are less than 2 firms available at which it will be awarded through a competitive process open only to the City certified SLBE-ELBE firms. If there are no bidders or no responsible bidders, the Contract will be made available to all Bidders and subject to requirements listed in items 1 and 2 for Major Public Works Contracts above.

E. JOINT VENTURES.

1. The City may allow for Joint Venture bid discounts on some Contracts. Contracts that allow for Joint Venture bid discounts will be designated in Bid documents. A firm that is bidding or competing for City Contracts may partner with a certified SLBE or ELBE to compete for Contracts as a Joint Venture.

2. A Joint Venture shall be between two entities with the same discipline or license as required by the City. Joint ventures will receive bid discounts depending on the SLBE or ELBE percentage of participation. To be eligible for a discount, a Joint Venture Agreement shall be approved by the City at the time of Bid submittal. The maximum allowable discount shall be 5%. The parties shall agree to enter in the relationship for the life of the projects.

3. Joint Venture shall submit a Joint Venture Management Plan, a Joint Venture Agreement, or both at least 2 weeks prior to the Bid due date. Copies of the Joint Venture applications are available upon request to the Contract Specialist. Each agreement or management plan shall include the following:

a) Detailed explanation of the financial contribution for each partner.

b) List of personnel and equipment used by each partner.

c) Detailed breakdown of the responsibilities of each partner.

d) Explanation of how the profits and losses will be distributed.

e) Description of the bonding capacity of each partner.

f) Management or incentive fees available for any one of the partners (if any).

4. Each Joint Venture partner shall perform a Commercially Useful Function. An SLBE or ELBE that relies on the resources and personnel of a non-SLBE or ELBE firm will not be deemed to perform a Commercially Useful Function.

5. Each Joint Venture partner shall possess licenses appropriate for the discipline for which a proposal is being submitted. If a Joint Venture is bidding on a single trade project, at the time of bid submittal, each Joint Venture partner shall possess the requisite specialty license for that trade bid.

6. The SLBE or ELBE partner shall clearly define the portion of the Work to be performed. This Work shall be of the similar type of Work the SLBE or ELBE partner performs in the normal course of its business. The Joint Venture Participation Form shall specify the Bid items to be performed by each individual Joint Venture partner. Lump sum Joint Venture participation shall not be acceptable.

7. Responsibilities of the SLBE or ELBE Joint Venture Partner:

   a) The SLBE or ELBE partner shall share in the control, management responsibilities, risks and profits of the Joint Venture in proportion with the level of participation in the project.

   b) The SLBE or ELBE partner shall perform Work that is commensurate with its experience.

   c) The SLBE or ELBE partner shall use its own employees and equipment to perform its portion of the Work.

   d) The Joint Venture as a whole shall perform Bid items that equal or exceed 50% of the Contract Price, excluding the cost of manufactured items, in order to be eligible for a Joint Venture discount.

F. MAINTAINING PARTICIPATION LEVELS.

1. Credit and preference points are earned based on the level of participation proposed prior to the award of the Contract. Once the Project begins you shall achieve and maintain the SLBE-ELBE participation levels for which credit and preference points were earned. You shall maintain the SLBE-ELBE percentages indicated at the Award of Contract and throughout the Contract Time.

2. If the City modifies the original Scope of Work, you shall make reasonable efforts to maintain the SLBE-ELBE participation for which creditor preference points were earned. If participation levels will be reduced, approval shall be received from the City prior to making changes.

3. You shall notify and obtain written approval from the City in advance of any reduction in subcontract scope, termination, or substitution for a designated SLBE-ELBE Subcontractor. Failure to do so shall constitute a material breach of the Contract.

4. If you fail to maintain the SLBE-ELBE participation listed at the time the Contract is awarded and have not received prior approval from the City, the

City may declare you in default and will be considered grounds for debarment under Chapter 2, Article 2, Division 8, of the San Diego Municipal Code.

G. SUBCONTRACTING EFFORTS REVIEW AND EVALUATION.

1. Documentation of your subcontracting efforts will be reviewed by EOCP to verify that you made subcontracting opportunities available to a broad base of qualified Subcontractors, negotiated in good faith with interested Subcontractors, and did not reject any bid for unlawful discriminatory reasons. The EOCP review is based on the federal "Six Good Faith Efforts" model.

2. The GFEs are required methods to ensure that all ELBE and SLBE firms have had the opportunity to compete for the City's Public Works procurements. The Six Good Faith Efforts, also known as affirmative steps, attract and utilize ELBE and SLBE firms:

   a) Ensure ELBE firms are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities.

   b) Make information of forthcoming opportunities available to SLBE-ELBE firms and arrange time for Contracts and establish delivery schedules, where requirements permit, in a way that encourages and facilitates participation by SLBE-ELBE firms in the competitive process. This includes posting solicitations for Bids or proposals to SLBE-ELBE firms for a minimum of 10 Working Days before the Bid or Proposal due date.

   c) Consider in the contracting process whether firms competing for large Contracts could subcontract with SLBE-ELBE firms.

   d) Encourage contracting with a consortium of ELBE-SLBE firms when a Contract is too large for one of these firms to handle individually.

   e) Use the services and assistance of the City's EOC Office and the SLBE-ELBE Directory.

   f) If you award subcontracts, require your Subcontractors to take the steps listed above.

H. GOOD FAITH EFFORT DOCUMENTATION.

1. If the specified SLBE-ELBE Subcontractor participation percentages are not met, you shall submit information necessary to establish that adequate GFEs were taken to meet the Contract Subcontractor participation percentages. See the City's document titled "Small Local Business (SLBE) Program, INSTRUCTIONS FOR BIDDERS COMPLETING THE GOOD FAITH EFFORT SUBMITTAL." The instructions for completing the good faith effort submittal can be found on the City's website:

   https://www.sandiego.gov/sites/default/files/legacy/eoc/pdf/slbegfeinst.pdf

I. SUBCONTRACTOR SUBSTITUTION.

1. Evidence of fraud or discrimination in the substitution of Subcontractors will result in sanctions including assessment of penalty fines, termination of Contract, or debarment. This section does not replace applicable California Public Contract Code.

J. FALSIFICATION OF SUB-AGREEMENT AND FRAUD.

1. Falsification or misrepresentation of a sub-agreement as to company name, Contract amount or actual Work performed by Subcontractors, or any falsification or fraud on the part your submission of documentation and forms pursuant to this program, will result in sanctions against you including assessment of penalty fines, termination of the Contract, or debarment. Instances of falsification or fraud which are indicative of an attempt by you to avoid subcontracting with certain categories of Subcontractors on the basis of race, gender, gender expression, gender identity, religion, national origin, ethnicity, sexual orientation, age, or disability shall be referred to the Equal Opportunity Contracting Program's Investigative Unit for possible violations of Article 2, Division 35 of the City Administrative Code, §§22.3501 et seq. (Nondiscrimination in Contracting).

K. RESOURCES.

1. The current list of certified SLBE-ELBE firms and information for completing the GFE submittal can be found on the City's EOC Department website:

   http://www.sandiego.gov/eoc/programs/slbe

ATTACHMENT D

PREVAILING WAGE

PREVAILING WAGE

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. This shall be in addition to any other applicable penalties allowed under Labor Code sections 1720 – 1861.

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. Contractor and their subcontractors shall also 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 contractors 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 sections1810 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 Prevailing Wage Unit at 858-627-3200.

1.9. Contractor and Subcontractor Registration Requirements. This project is subject to compliance monitoring and enforcement by the DIR. A contractor or subcontractor shall not be qualified to bid on, be listed in a bid or proposal, subject to the requirements of section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, unless currently registered and qualified to perform public work pursuant to Labor Code section 1725.5 It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.

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.

1.9.2. 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 for themselves and all listed subcontractors to the City at the time of bid or proposal due date or upon request.

1.10. Stop Order. For Contractor or its subcontractors engaging in the performance of any public work contract without having been registered in violation of Labor Code sections 1725.5 or 1771.1, the Labor Commissioner shall issue and serve a stop order prohibiting the use of the unregistered contractors or unregistered subcontractor(s) on ALL public works until the unregistered contractor or unregistered subcontractor(s) is registered. Failure to observe a stop order is a misdemeanor.

1.11. List of all Subcontractors. The Contractor shall provide the list of subcontractors (regardless of tier), along with their DIR registration numbers, utilized on this Contract prior to any work being performed; and the Contractor shall provide a complete list of all subcontractors with each invoice. Additionally, Contractor shall provide the City with a complete list of all subcontractors (regardless of tier) utilized on this contract within ten working days of the completion of the contract, along with their DIR registration numbers. The City shall withhold final payment to Construction Management Professional until at least thirty (30) days after this information is provided to the City.

1.12. Exemptions for Small Projects. There are limited exemptions for installation, alteration, demolition, or repair work done on projects of $25,000 or less. The Contractor shall still comply with Labor Code sections 1720 et. seq. The only recognized exemptions are listed below:

1.12.1. Registration. The Contractor will not be required to register with the DIR for small projects. (Labor Code section 1771.1).

1.12.2. Certified Payroll Records. The records required in Labor Code section 1776 shall be required to be kept and submitted to the City of San Diego, but will not be required to be submitted online with the DIR directly. The Contractor will need to keep those records for at least three years following the completion of the Contract. (Labor Code section 1771.4).

1.12.3. List of all Subcontractors. The Contractor shall not be required to hire only registered subcontractors and is exempt from submitting the list of all subcontractors that is required in section 1.11. above. (Labor code section 1773.3).

ATTACHMENT E

SUPPLEMENTARY SPECIAL PROVISIONS

SUPPLEMENTARY SPECIAL PROVISIONS

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

1. The **2021 Edition** of the Standard Specifications for Public Works Construction (The "GREENBOOK").

2. The **2021 Edition** of the City of San Diego Standard Specifications for Public Works Construction (The "WHITEBOOK"), including the following:

   a) General Provisions (A) for all Construction Contracts.

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

1-2 TERMS AND DEFINITIONS. To the "WHITEBOOK":

To item 47, "Holiday", ADD the following:

Holiday	Observed On
Juneteenth	June 19

To item 55, "Normal Working Hours", DELETE in its entirety and SUBSTITUTE with the following:

Normal Working Hours: Normal Working Hours shall be **7:30 AM to 3:30 PM, Monday through Friday**, inclusive. Saturdays, Sundays, and City Holidays are excluded. Unless otherwise specified on the Traffic Control Permits.

SECTION 3 – CONTROL OF THE WORK

3-2 SELF-PERFORMANCE. To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. You shall perform, with your own organization, Contract Work amounting to at least **50%** of the Base Bid.

3-9 TECHNICAL STUDIES AND SUBSURFACE DATA. To the "WHITEBOOK", 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:

   a) Geotechnical Memorandum Water and Sewer Group 965 – Task No. 17CPA09, San Diego, CA (SCST No. 180322P4.3 Report No. 1), dated March 3, 2020, by SCST, Inc.

b) Temporary Piezometer Wells Installed for Dewatering Support at Water and Sewer Group 965, Sorrento Valley Road, San Diego, CA, dated September 11, 2017, by Compliance Monitoring Services.

c) Geotechnical Investigation Water and Sewer Group 965, Contract No. H156367, Task No., 15GG16, San Diego, CA, dated November 30, 2018 by Geocon Incorporated.

d) SWG Data Sheet of GPS: (010) Borehole and Corehole Utility/Rebar Locating, Per Borehole Rate at 11526 Sorrento Valley Road North, by Southwest Geophysics, dated January 10, 2020

e) AirX Project # X200003 Potholing Report. Utility Locating and Potholing Area: Sorrento Valley Road, dated April 6, 2020, By AirX Utility Surveyors, Inc.

6. The reports listed above are available for review at the following link:

https://drive.google.com/drive/folders/1hP-pdqOtHSNrtL3rkw4H2BF34yCddU85?usp=sharing

3-12.7 **Drinking Water Discharges Requirements.** To the "WHITEBOOK", ADD the following:

1. You shall record the results for each discharge event on the City's Drinking Water Discharge Monitoring form included as **Appendix F - Monthly Drinking Water Discharge Monitoring Form.**

3-12.8.3 **Equipment.** To the "WHITEBOOK", item 4, DELETE in its entirety and SUBSTITUTE with the following:

4. The approved dewatering system shall include a suitably sized pipeline to transport extracted groundwater from the Work Site to the indicated point of discharge as applicable under the dewatering permit in force during the dewatering operations. The alignment of this pipeline shall be subject to the approval by the Engineer. Where the pipeline is allowed to cross roadways or parking areas, you shall be required to install a conduit below the traveled surface. The installation shall provide protection for the temporary pipeline and a smooth transition across the in accordance with Standard Drawing SDG-107, "Pavement Restoration for Asphalt Concrete Surfaced Streets - Major Excavation" or a concrete trench cap in accordance with Standard Drawing SDG-108, "Pavement Restoration for Concrete Surfaced Streets and Alleys - Major Excavation" as included in **Appendix L – Standard Drawings**.

SECTION 4 - CONTROL OF MATERIALS

4-6 **TRADE NAMES.** To the "WHITEBOOK", ADD the following:

11. You shall submit your list of proposed substitutions for an "equal" item **no later than 5 Working Days after the issuance of the Notice of Intent to Award** and on the City's Product Submittal Form available at:

https://www.sandiego.gov/ecp/edocref/

SECTION 5 – LEGAL RELATIONS AND RESPONSIBILITIES

5-4 **INSURANCE.** To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

5-4 INSURANCE.

1. The insurance provisions herein shall not be construed to limit your indemnity and defense duties set forth in the Contract.

5-4.1 Policies and Procedures.

1. You shall procure the insurance described below, at your 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 as required by this Contract and at all times thereafter when you are correcting, removing, or replacing Work in accordance with this Contract. Your duties under the Contract, including your indemnity obligations, are not limited to the insurance coverage required by this Contract.

4. If you maintain broader coverage or higher limits than the minimums shown below, City requires and shall be entitled to the broader coverage or the higher limits maintained by you. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to City.

5. Your payment for insurance shall be included in the Contract Price you bid. You are not entitled to any additional payment from the City to cover your insurance, unless the City specifically agrees to payment in writing. Do not begin any Work under this Contract or allow any Subcontractors to begin work, until you have provided, and the City has approved, all required insurance.

6. Policies of insurance shall provide that the City is entitled to 30 days advance written notice of cancellation or non-renewal of the policy or 10 days advance written notice for cancellation due to non-payment of premium. Maintenance of specified insurance coverage is a material element of the Contract. Your failure to maintain or renew coverage and to provide evidence of renewal during the term of the Contract may be treated by the City as a material breach of the Contract.

5-4.2 Types of Insurance.

5-4.2.1 General Liability Insurance.

1. Commercial General Liability Insurance shall 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:

General Annual Aggregate Limit	Limits of Liability
Other than Products/Completed Operations	$10,000,000
Products/Completed Operations Aggregate Limit	$10,000,000
Personal Injury Limit	$5,000,000
Each Occurrence	$5,000,000

5-4.2.2 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.

5-4.2.3 Workers' Compensation Insurance and Employers Liability Insurance.

1. In accordance with the provisions of California Labor Code section 3700, 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 this requirement.

2. Statutory Limits shall be provided for Workers' Compensation Insurance as required by the state of California, and Employer's Liability Insurance with limits of no less than $1,000,000 per accident for bodily injury or disease.

3. By signing and returning the Contract, you certify that you are aware of the provisions of California's Workers' Compensation laws, including Labor Code section 3700, which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance, and that you will comply with these provisions before commencing the Work.

5-4.2.4 Contractors Pollution Liability Insurance.

1. You shall procure and maintain at your expense or require your Subcontractor, as described below, to procure and maintain Contractors Pollution Liability Insurance applicable to the Work being performed, with a limit no less than $2,000,000 per claim or occurrence and $4,000,000 aggregate per policy period of one year.

2. All costs of defense shall be outside the limits of the policy.

3. You shall obtain written approval from the City for any insurance provided by your Subcontractor instead of you.

4. 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 unless the City has provided prior, written approval.

5. Occurrence based policies shall be procured before the Work commences. 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.

5-4.2.5 Contractors Hazardous Transporters Pollution Liability Insurance.

1. You shall procure and maintain at your expense or require your Subcontractor, as described below, to procure and maintain Contractors Hazardous Transporters Pollution Liability Insurance, including contractual liability coverage to cover liability arising out of transportation of hazardous or toxic, materials, substances, or any other pollutants by you or any Subcontractor in an amount no less than $2,000,000 limit per occurrence and $4,000,000 aggregate per policy period of one year.

2. All costs of defense shall be outside the limits of the policy.

3. You shall obtain written approval from the City from any insurance provided by a Subcontractor instead of you.

4. To obtain City approval of a Subcontractor's insurance coverage in lieu of the Contractor's insurance, the Contractor shall certify that all activities under the Contractor's Hazardous Transporters Pollution Liability Insurance will be performed exclusively by the Subcontractor providing the insurance. The deductible shall not exceed $25,000 per claim without prior approval of the City

5. Occurrence based policies shall be procured before the Work commences. Claims Made policies shall be procured before the Work commences, shall be maintained for the duration of this contract, 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 under this Contract without advancing the retroactive date.

5-4.3 **Rating Requirements.** Except for the State Compensation Insurance Fund, all insurance required by this Contract 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 of California, and that have been approved by the City.

5-4.3.1 **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 of California 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 in this Contract.

5-4.4 **Evidence of Insurance.** You shall furnish the City with original Certificates of Insurance, including all required amendatory endorsements (or copies of the applicable policy language effecting coverage required by this clause), prior to your commencement of Work under this Contract. In addition, The City reserves the right to require complete, certified copies of all required insurance policies, including endorsements, required by these specifications, at any time.

5-4.5 **Policy Endorsements.**

5-4.5.1 **Commercial General Liability Insurance.**

5-4.5.1.1 **Additional Insured.** To the fullest extent permitted by law and consistent with the limiting provisions set forth at California Civil Code section 2782, California Insurance Code section 11580.04, and any applicable successor statutes limiting indemnification of public agencies that bind the City, the policy or policies shall be endorsed to include as an Additional Insured the City and its respective elected officials, officers, employees, agents, and representatives, with respect to liability arising out of:

i. Ongoing operations performed by you or on your behalf,

ii. your products,

iii. your work, e.g., your completed operations performed by you or on your behalf, or

iv. premises owned, leased, controlled, or used by you.

5-4.5.1.2 **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.

5-4.5.1.3 **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.

5-4.5.2 **Workers' Compensation Insurance and Employers Liability Insurance.**

5-4.5.2.1 **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.

5-4.5.3 **Contractors Pollution Liability Insurance Endorsements.**

5-4.5.3.1 **Additional Insured.** To the fullest extent permitted by law and consistent with the limiting provisions set forth at California Civil Code section 2782, California Insurance Code section 11580.04, and any applicable successor statutes limiting indemnification of public agencies that bind the City, the policy or policies shall be endorsed to include as an Additional 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.

5-4.5.3.2 **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.

5-4.5.3.3 **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.

5-4.5.4 **Contractors Hazardous Transporters Pollution Liability Insurance Endorsements.**

5-4.5.4.1 **Additional Insured.** To the fullest extent permitted by law and consistent with the limiting provisions set forth at California Civil Code section 2782, California Insurance Code section 11580.04, and any applicable successor statutes limiting indemnification of public agencies that bind the City, the policy or policies shall be endorsed to include as an Additional 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.

5-4.5.4.2 **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.

5-4.5.4.3 **Severability of Interest.** For Contractors Hazardous Transporters 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.

5-4.6 **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. The City may require you to purchase coverage with a lower retention or provide proof of ability to pay losses and related investigations, claim administration, and defense expenses within the retention. The policy language shall provide, or be endorsed to provide, that the self-insured retention may be satisfied by either the named insured or City.

5-4.7 **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.

5-4.8 **Notice of Changes to Insurance.** You shall notify the City, in writing, 30 days prior to any material change to the policies of insurance provided under this Contract. This written notice is in addition to the requirements of paragraph 6 of Section 5-4.1.

5-4.9 **Excess Insurance.** Policies providing excess coverage shall follow the form of the primary policy or policies, including, all endorsements.

SECTION 6 – PROSECUTION AND PROGRESS OF THE WORK

6-1.1 **Construction Schedule.** To the "WHITEBOOK", ADD the following:

3. Refer to the Sample City Invoice materials in **Appendix D – Sample City Invoice with Cash Flow Forecast** and use the format shown.

6-2.1 **Moratoriums.** To the "WHITEBOOK", 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 below:

   a) Gnatcatcher Breeding Season (requires monitoring) from **March 1** to **August 15** (inclusive).

6-3.1 **General.** To the "WHITEBOOK", item 3, subitem d, DELETE in its entirety and SUBSTITUTE with the following:

d) 30 Calendar Days for full depth asphalt final mill and resurfacing work required per SDG-107, "Pavement Restoration for Asphalt Concrete Surfaced Streets - Major Excavation" as included in **Appendix L – Standard Drawings**.

ADD:

6-6.1.1 **Environmental Document.**

1. The City of San Diego has prepared an **Addendum to Mitigated Negative Declaration** and a **Notice of Determination** for **Water and Sewer Group 965**, Project No. **578855**, as referenced in the Contract Appendix. You shall comply with all requirements of the **Addendum to Mitigated Negative Declaration and Notice of Determination** as set forth in **Appendix A**.

2. The City of San Diego has prepared a **State Water Resources Control Board** for **Water and Sewer Group 965**, Project No. **B-12048**, as referenced in the Contract Appendix. You shall comply with all requirements of the **State Water Resources Control Board** and Coordinate the construction schedule and activities with the Paleontologist monitor as set forth in **Appendix G**.

3. Compliance with the City's environmental document shall be included in the Contract Price unless separate bid items have been provided.

6-6.2.1 **Archaeological and Native American Monitoring Program.** To the "WHITEBOOK", ADD the following:

4. You shall retain a qualified archaeologist and Native American Monitor for this Contract. You shall coordinate your activities and Schedule with the activities and schedules of the archaeologist and Native American monitor. Notify the Engineer before noon of the Working Day before monitoring is required. See 3-5, "INSPECTION" for details.

6-6.2.2 **Paleontological Monitoring Program.** To the "WHITEBOOK", ADD the following:

3. You shall retain a qualified paleontologist for this Contract. You shall coordinate your activities and Schedule with the activities and schedules of the paleontologist monitor. Notify the Engineer before noon of the Working Day before monitoring is required. See 3-5, "INSPECTION" for details.

6-9 **LIQUIDATED DAMAGES**. To the "WHITEBOOK", item 2, DELETE in its entirety and SUBSTITUTE with the following:

2. The execution of the Contract shall constitute agreement between you and the City that the liquidated damage amount described in the table below is the value of the damage caused by your failure to complete the Work within the allotted time. Such sum shall not be construed as a penalty and may be deducted from your payments if such delay occurs.

Contract Value	Liquidated Damages Daily Amount
Less than $200,001	$1,000
$200,001 to $500,000	$1,500
$500,001 to $1,000,000	$2,000
$1,000,001 to $2,000,000	$2,500
$2,000,001 to $5,000,000	$3,000
$5,000,001 to $10,000,000	$5,500

Contract Value	Liquidated Damages Daily Amount
$10,000,001 to $20,000,000	$6,500
Greater Than $20,000,000	$7,000

SECTION 7 – MEASUREMENT AND PAYMENT

7-3.1 **Payment.** To the "WHITEBOOK", ADD the following:

4. The Payment for "Channelizer" shall be made at the contract unit bid price for each and shall include all work, material, labor, costs, and time associated with the installation of channelizers that will be:

   a) Shur-Tite UFlex 28" White channelizer and surface mount base or approved equal and will be installed per Striping, Signing and Electric Plans Set **100744-1-D** thru **100744-15-D**.

   b) Shur-Tite Shur-Curb Traffic Separator with 28" White channelizer or approved equal and will be installed per Striping, Signing and Electric Plans Set **100744-1-D** thru **100744-15-D**.

7-3.2.2.1 **Progress Payment for Pipelines.** To the "WHITEBOOK", item 4, DELETE in its entirety and SUBSTITUTE with the following:

4. In asphalt-surfaced streets, the City shall pay 15% for hydrostatic and bacterial testing, Wayneball and Mandrelling (where necessary), for water and sewer utility constructions respectively, and operational testing for storm drains, including the trench cap and cleanup. The City shall pay the remaining 5% after completing the asphalt wearing surface, Trench Capping per SDG-107 "Pavement Restoration for Asphalt Concrete Surfaced Streets - Major Excavation" as included in **Appendix L – Standard Drawings**, and final cleanup

7-3.4.1 **General.** To the "WHITEBOOK", ADD the following:

1. The Lump Sum Bid item for "**Carmel Mountain Road Pressure Reducing Station Electrical,**" "**Remove and Relocate Existing Fire Hydrant behind Sidewalk to ensure 36" minimum clearance for an accessibility route**" and "**Carmel Mountain Road Pressure Reducing Station Mechanical**" shall include all components required for the construction as specified in the Plans, Contract Documents, and Technical Sections 13300 thru 16950.

2. The per linear foot Bid item for "**Water Service Lateral Connection to Water Main Pipe Bursting**" and shall include all construction, material, and components required for the construction of water services and connecting

to water mains installed via pipe bursting as specified in the Plans and Supplemental Special Provisions section 318.

7-3.9 **Field Orders**. To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. If the cumulative total of Field Order items of Work does not exceed the "**Field Orders**" Bid Item, the City shall pay those Field Orders as shown below:

TABLE 7-3.9

FIELD ORDER LIMITS

Contract Price	Maximum Each Field Order Work Amount
Less than $1,000,001	$10,000
$1,000,001 to $5,000,000	$20,000
$5,000,001 to $10,000,000	$25,000
$10,000,001 to $30,000,000	$40,000
Greater than $30,000,000	$70,000

7-3.11 **Compensation Adjustments for Price Index Fluctuations.** To the "WHITEBOOK", ADD the following:

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

SECTION 301 – SUBGRADE PREPARATION, TREATED MATERIALS, AND PLACEMENT OF BASE MATERIALS

301-1.6 **Preparatory Repair Work.** To the "WHITEBOOK", DELETE in their entirety and SUBSTITUTE with the following:

1. Prior to the placement of any asphalt concrete or application of slurry, you shall complete all necessary preparation and repair Work and shall obtain approval by the Resident Engineer.

2. No preparatory asphalt Work shall be done when the atmospheric temperature is below 50° F (10° C) or during unsuitable weather.

3. Preparatory Work shall include tree trimming, weed spray, weed abatement, crack sealing, asphalt repair, cold milling, hump removal, lump removal, subgrade preparation and subgrade or base repair, removal of raised pavement markers, removal of pavement markings, location of public and

private utilities and appurtenances, all Concrete works, and all other necessary works as specified in the Special Provisions and Contract Documents or as directed by the Engineer.

4. After the completion of the preparatory work, you shall install compacted asphalt concrete pavement according to the thickness specified in the Special Provisions and Contract Documents or a minimum of 2 inches (50.8 mm) for residential streets and a minimum of 3 inches (76.2 mm) for all other streets or as directed by the Engineer.

5. You shall identify the location of all utilities vaults, valves, and other appurtenances not included in the project scope requiring relocation or adjustment to grade by other agencies/companies by marking the face of the curb closest to the utility appurtenance as follows:

    1. Offset distance of the appurtenance from the curb face

    2. The limits of the appurtenance or corners of the vault/box

6. The quantities shown in the appendices are based on a street assessment survey and may vary. The Engineer will designate the limits to be removed and prepared and these designated areas shall be considered to take precedence over the areas shown in an Appendix to the Contract Documents.

7. You shall repair areas of distressed asphalt concrete pavement by milling or removing damaged areas of pavement to a minimum depth of 2 inches (50.8 mm) for residential streets and a minimum depth of 3 inches (76.2 mm) for all others except where specified otherwise in the Special Provisions and Contract Documents or as directed by the Engineer to expose firm and unyielding pavement as specified.

8. If, in order to achieve the minimum specified depth, the base material or native subgrade is exposed, you shall notify the Engineer the material shall be compacted to 95% relative compaction.

9. Compaction tests shall be made to ensure compliance with the specifications.

10. The QCP shall establish location and timing of compaction testing and shall be subject to approval by the Engineer. You shall reimburse the City for the cost of retesting failing compaction tests conducted as part of the City of San Diego Quality Assurance testing.

11. If additional base material is required, you shall use Class 2 Aggregate base in accordance with 200-2.9.1, “Class 2 Aggregate base (Scheduled, 5 Inch)" and “Class 2 Aggregate base (unscheduled, 5 Inch)” or as directed by the Engineer.

12. Prior to placement of compacted asphalt concrete pavement, you shall prepare the subgrade as needed and install a minimum of 2 or 3 inches as specified in the contract documents and special provisions, of compacted asphalt concrete pavement over native material as directed by the Engineer.

13. Areas of damaged asphalt requiring base repair work including excavation, placement of asphalt concrete, asphalt concrete base, and class 2 aggregate base, have been identified in the appendices as “DO”, Dig Out, also called Base Repairs.

14. The areas and quantities shown in the appendices are given only for the Contractor’s aid in planning the Work and preparing Bids. You shall identify any new areas that require repair prior to paving in order to construct a smooth and stable pavement surface. Upon approval by the engineer, the repair locations shall be incorporated into scope of work and shall not be considered extra work. You shall mark the pavement area as “DO” or as directed by the Engineer.

15. 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”.

16. When milling and/or grinding asphalt pavement for base repair and the contractor encounters level and unyielding PCC trench caps or appurtenance collars before reaching the minimum depth of 2 inches, then the You shall place enough asphalt concrete pavement to bring the surface to be level with the adjacent roadway. Asphalt Concrete Base shall be Type III-B3-PG 64-10 and Asphalt Concrete Pavement shall be Type III-C2-PG 64-10 as directed by the Engineer.

17. You shall install new asphalt within the repair area or for patches in accordance with 302-5, “ASPHALT CONCRETE PAVEMENT”. Asphalt concrete shall be Type III-C2-PG 64-10 in compliance with 203-6.3.1 “General”.

18. Recycled base material shall conform to Class 2 Aggregate Base material in accordance with 200-2.4, “Class 2 Aggregate Base (Scheduled, 5 Inch)” and “Class 2 Aggregate Base (Unscheduled, 5 Inch)”.

19. Following the asphalt placement, you 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, you shall seal all finished edges with a 4 inch (101.6 mm) wide continuous band of SS-1H.

20. Materials removed, regardless of removal method, shall be disposed of at a legal site.

21. The minimum dimensions for each individual repair shall be 4 feet by 4 feet (1.2 m by 1.2 m) 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. Base repairs shall have a minimum depth of 10”.

c. You shall repair the areas shown in the appendices of distressed asphalt concrete to remove damaged areas of pavement in accordance with 404-1, to expose firm and unyielding pavement, base, or native soils, regardless of materials encountered. Unyielding pavement will have no visible cracks and unyielding base, or native soils will be properly compacted, as determined by the Engineer. If cracks are visible, then pavement is not unyielding and shall require additional depth be removed as directed by the Engineer. The Contractor shall prepare subgrade as needed and install a maximum of 5" compacted asphalt concrete pavement over the compacted base material to be level with the adjacent roadway surface.

d. When additional base material is required, then you shall use Class 2 Aggregate Base in accordance with 200-2.4, “Class 2 Aggregate Base (Scheduled, 5 Inch)” and “Class 2 Aggregate Base (Unscheduled, 5 Inch)” or as directed by the Engineer.

e. Recycled base material shall conform to Class 2 Aggregate base material in accordance with 200-2.4, “Class 2 Aggregate Base (Scheduled, 5 Inch)” and “Class 2 Aggregate Base (Unscheduled, 5 Inch)”.

f. You 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.

g. 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 pavement.

h. Base repair areas where failed pavement is removed either by cold milling or by excavation shall be restored to existing pavement grade with “Class 2 Aggregate Base (Scheduled, 5 Inch)” and “Class 2 Aggregate Base (Unscheduled, 5 Inch)” at 5 inches, and 5 inches of “Asphalt Concrete Base” shall be placed atop the layer of “Class 2 Aggregate Base (Scheduled, 5 Inch)” and “Class 2 Aggregate Base (Unscheduled, 5 Inch)” unless otherwise directed by the Engineer. These areas have been identified in the appendices as “DO”. The Crushed Miscellaneous Base shall be in accordance with 200-2.9, “Class 2 Aggregate Base (Scheduled, 5 Inch)” and “Class 2 Aggregate Base (Unscheduled, 5 Inch)” The asphalt concrete base shall be Type III-B3-PG 64-10 as specified in 203-6, “ASPHALT CONCRETE”. “General” Preliminary quantities are identified in the Contract appendix but may need to be increased and approved by the Engineer at the time of construction. Base Repairs shall not exceed 15% RAP in content.

i. Base repair with asphalt concrete base areas where failed pavement is removed either by cold milling or by excavation shall be restored to existing pavement grade with Asphalt Concrete Base at 8 inch (203.2mm) and a minimum of 2 or 3 inches of asphalt concrete shall be placed atop the layer of Asphalt Concrete Base unless otherwise directed by the Engineer. The asphalt concrete base shall be Type III-B3-PG 64-10 as specified in 203-6, "ASPHALT CONCRETE." The asphalt concrete shall be Type III-C2-PG 64-10 as specified in 203-6, "General." Base Repairs shall not exceed 15% RAP in content. Base Repairs with Asphalt Concrete Base shall not be performed except where directed by the Engineer.

j. A Base repair identified prior to initiation of the preparatory work shall be considered scheduled.

k. A base repair is considered unscheduled when it is not identified in the appendices as "DO" prior to initiation of preparatory work or when you are directed by the Engineer to perform an unscheduled base repair for the proper placement of an asphalt overlay.

l. At the end of each day the Contractor shall submit to the Engineer an itemized list of the asphalt pavement and base repair work completed. The list shall include but not be limited to the location of the work, the exact square footage of the repair, cubic yards of excavation, tons of asphalt concrete base placed, and tons of Class 2 Aggregate Base material placed or as directed by the Engineer.

301-1.7 Payment. To the "WHITEBOOK", DELETE in their entirety and SUBSTITUTE with the following:

1. The demolition, removal, and disposal of various types of existing hardscape in parkway areas, such as colored concrete, bricks, flagstone in the parkway or right-of-way, shall be included under the lump sum Bid items or for the Contract Unit Prices for which hardscape removal is required. When required, hardscape in parkways shall be replaced with Class A Top Soil or as directed by the Engineer.

2. The payment for the preparatory works shall be included in the lump sum Bid Items and Contract Unit Prices for which preparation works are performed, unless it is specified as a separate Bid Item.

3. The areas and quantities shown in the 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 prepared and these designated areas shall be considered to take precedence over the areas shown in an Appendix to the Contract Documents. The quantities shown in the appendices are based on a street assessment survey and may vary. No payment shall be made for areas of over excavation as determined by the Engineer.

4. Asphalt pavement subgrade repair, and base repair dig-outs, shall be paid at the Contract unit price for "Excavate and Export (Scheduled, 10 Inch)" and "Excavation and Export (Unscheduled, 10 Inch)", "Asphalt Concrete Base (Scheduled, 5 Inch)" and "Asphalt Concrete Base (Unscheduled, 5 Inch)", "Class 2 Aggregate Base (Scheduled, 5 Inch)" and "Class 2 Aggregate Base (Unscheduled, 5 Inch)". No Payment shall be made for areas of over excavation as determined by the Engineer.

5. When Cold Milling is used as a method for excavation for subgrade or base repair for pavement, Cold Milling shall be included in the Contract Unit Price for "Excavate and Export (Scheduled, 10 Inch)" or "Excavation and Export (Unscheduled, 10 Inch)".

6. The payment for Excavation shall be paid at the Contract Unit Price for "Excavate and Export (Scheduled, 10 Inch)" or "Excavation and Export (Unscheduled, 10 Inch)" for each bank cubic yard of material removed. Proof of proper disposal and/or recycling at a legal site for quantities excavated shall be required in advance of payment as directed by the Engineer and shall be subject to approval by the Engineer for payment. No additional payment shall be made for milling, grinding, saw cutting, hauling, disposal of concrete, pavement fabric, rubberized material, steel reinforcement, or any other material.

7. No additional payment shall be made for milling, grinding, saw cutting, stockpiling, hauling, disposal of concrete, pavement fabric, rubberized material, steel reinforcement, or any other material.

301-2.4 Measurement and Payment. To the "GREENBOOK", ADD the following:

1. Payment for Class 2 Aggregate base material installed shall be made at the Contract Unit Price for "Class 2 Aggregate Base (Scheduled, 5 Inch) and "Class 2 Aggregate Base (Unscheduled,5 Inch) per ton and includes all necessary works such as hauling, placement, and compaction as directed by the Engineer.

SECTION 302 – ROADWAY SURFACING

302-5.2 Pavement Restoration Adjacent to Trench. To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

302-5.2 Pavement Restoration Adjacent to Trench Influence Zone

1. The Work for pavement restoration shall include the replacement of existing pavement outside of the trench influence zone in accordance with SECTION 302 – ROADWAY SURFACING and as shown on the Plans.

2. Prior to the commencement of the Work, you shall meet with the Engineer and determine the limits of the pavement to be replaced.

3. Existing pavement shall be removed in accordance with SECTION 404 – COLD MILLING, and as shown on the Plans.

4. Areas of damaged pavement requiring base repair Work shall be restored in accordance with Section 301-1.6 “Preparatory Repair Work”, and as shown on the Plans.

302-5.2.1 **Measurement and Payment.** To the "WHITEBOOK", item 1, DELETE in its entirety and SUBSTITUTE with the following:

1. The payment for asphalt concrete pavement restoration outside of the trench influence zone shall be made on a tonnage basis in accordance with Section 302-5.9 “Measurement and Payment”, and paid for under Bid Item “Asphalt Concrete Overlay (2 inch)”, unless separate Bid items have been provided. The following shall be included in the payment for “Asphalt Concrete Overlay (2 inch)":

    a) Saw-cutting existing edges.

    b) Applying tack coat.

    c) Placement, curing, and protection of new pavement.

2. The payment for removal of existing asphalt concrete pavement shall be made on square foot basis in accordance with Section 404-12 “Payment”, and paid for under Bid Item “**Cold Milling (2 inch)**”.

3. The payment for base repair Work shall be made in accordance with Section 301-1.7 “Payment”.

302-6.1 **General.** To the "WHITEBOOK", item 3, DELETE in its entirety and SUBSTITUTE with the following:

3. The thickness of the new concrete pavement shall be in accordance with Standard Drawing SDG-108, "Pavement Restoration for Concrete Surfaced Streets and Alleys - Major Excavation" as included in **Appendix L – Standard Drawings**.

SECTION 306 – OPEN TRENCH CONDUIT CONSTRUCTION

306-1 **GENERAL**. To the “GREENBOOK”, ADD the following:

1. All Work under this section shall be subject to the applicable permanent resurfacing restoration requirements in accordance with the following City of San Diego Standard Drawings as included in **Appendix L – Standard Drawings**.

    a) SDG-105, “Pavement Restoration General Notes”

    b) SDG-107, “Pavement Restoration for Asphalt Concrete Surfaced Streets - Major Excavation”

c) SDG-108, “Pavement Restoration for Concrete Surfaced Streets and Alleys - Major Excavation"

d) SDG-117, “Pavement Restoration for Asphalt Concrete Surface Streets - Minor Excavation"

e) SDG-118, “Pavement Restoration for Concrete Surface Streets and Alleys - Minor Excavation

ADD:

306-1.1 High-line Phasing.

1. Build the Project in accordance with the water high-lining phasing shown on the Plans and in phases as follows:

   a) Phase I: Sta 1+00 to 12+50

   b) Phase II: Sta 12+50 to Sta 29+50

   c) Phase III: Sta 29+50 to Sta 42+50

2. When installing pipelines within the City’s streets, for the following streets, the total time allowed for the completion of Work shall not exceed **10 Working Days** per 500 feet of pipeline installation:

   a) Water and Sewer main replacement will be along Sorrento Valley Road. It will start approximately 4,500 feet south of the Carmel Mountain Road intersection and will end approximately 500 feet north of this same intersection.

306-3.3.4 Payment. To the "WHITEBOOK", ADD the following:

12. The payment for pavement restoration including influence area shall be included in the Bid items for the associated abandonment Work.

306-15 PAYMENT. To the "GREENBOOK", ADD the following:

1. Payment for pavement restoration, including influence area, shall be included in the associated Bid items pertinent to the Work.

306-15.1 General. To the "WHITEBOOK", item 1, subitem n, DELETE in its entirety and SUBSTITUTE with the following:

n) Permanent resurfacing. See 306-1 General for permanent pavement restoration requirements.

306-15.6 Hydrants. To the "WHITEBOOK", ADD the following:

5. Payment for pavement restoration, including influence area, shall be included in the associated Bid items pertinent to the Work.

6. See 306-1 General for permanent resurfacing requirements.

306-15.7 **Buried Structures.** To the “WHITEBOOK”, DELETE in its entirety and SUBSTITUTE with the following:

306-15.7 **Buried Structures.** To the "GREENBOOK", sentence (3), DELETE in its entirety and SUBSTITUTE with the following:

The Contract Unit Price shall include excavation, backfill, disposal of all excess excavation, constructing inverts, furnishing and installing castings, restoration of the street surface (See 306-1 General for permanent resurfacing requirements) and improvements including but not limited to sidewalk panel, and all other Work, excluding temporary resurfacing, necessary to construct the buried structure, complete in-place.

306-15.8 **Pipeline Appurtenances.** To the "WHITEBOOK", ADD the following:

10. Payment for pipeline appurtenances will be made at the contract unit price for each appurtenance of the size including permanent resurfacing requirements. See 306-1 General for permanent resurfacing requirements.

306-16.6 **Payment.** To the “WHITEBOOK”, ADD the following:

6. All Work under this section shall be subject to the applicable permanent resurfacing restoration requirements in accordance with the following City of San Diego Standard Drawings. Payment for pavement restoration, including influence area, shall be included in the associated Bid items pertinent to the Work.

    a) See 306-1 General for permanent resurfacing requirements.

306-17.2 **Payment.** To the “WHITEBOOK”, ADD the following:

12. All Work under this section shall be subject to the applicable permanent resurfacing restoration requirements in accordance with the following City of San Diego Standard Drawings. Payment for pavement restoration, including influence area, shall be included in the associated Bid items pertinent to the Work.

13. See 306-1 General for permanent resurfacing requirements.

SECTION 307 - JACKING AND TUNNELING

307-1 **JACKING OPERATIONS.** To the “GREENBOOK”, ADD the following:

1. All Work under this section shall be subject to the applicable permanent resurfacing restoration requirements in accordance with the following City of San Diego Standard Drawings as included in **Appendix L – Standard Drawings**. Payment for pavement restoration, including influence area, shall be included in the associated Bid Items pertinent to the Work.

    a) SDG-105, “Pavement Restoration General Notes”

    b) SDG-107, “Pavement Restoration for Asphalt Concrete Surfaced Streets - Major Excavation”

c) SDG-108, “Pavement Restoration for Concrete Surfaced Streets and Alleys - Major Excavation"

d) SDG-117, “Pavement Restoration for Asphalt Concrete Surface Streets - Minor Excavation"

e) SDG-118, “Pavement Restoration for Concrete Surface Streets and Alleys - Minor Excavation”

307-1.7 Payment. To the "WHITEBOOK”, ADD the following:

2. All Work under this section shall be subject to the applicable permanent resurfacing restoration requirements in accordance with the following City of San Diego Standard Drawings as included in **Appendix L – Standard Drawings**. Payment for pavement restoration, including influence area, shall be included in the associated Bid items pertinent to the Work.

3. See 307-1 JACKING OPERATIONS for permanent resurfacing requirements.

SECTION 308 - MICROTUNNELING

308-1 GENERAL. To the “GREENBOOK”, ADD the following:

1. All Work under this section shall be subject to the applicable permanent resurfacing restoration requirements in accordance with the following City of San Diego Standard Drawings as included in **Appendix L – Standard Drawings**. Payment for pavement restoration, including influence area, shall be included in the associated Bid Items pertinent to the Work.

a) SDG-105, “Pavement Restoration General Notes”

b) SDG-107, “Pavement Restoration for Asphalt Concrete Surfaced Streets - Major Excavation”

c) SDG-108, “Pavement Restoration for Concrete Surfaced Streets and Alleys - Major Excavation"

d) SDG-117, “Pavement Restoration for Asphalt Concrete Surface Streets - Minor Excavation"

e) SDG-118, “Pavement Restoration for Concrete Surface Streets and Alleys - Minor Excavation”

308-10 RESTORATION OF SURFACE IMPROVEMENTS. To the “GREENBOOK”, DELETE in its entirety and SUBSTITUTE with the following:

See Section 308 -1 General for permanent resurfacing requirements.

308-12 PAYMENT. To the “WHITEBOOK”, DELETE in its entirety and SUBSTITUTE with the following:

1. The payment for microtunneling, including casing, carrier pipes, and surface improvement restoration, shall be included in the Bid item for “**Sewer Main by Microtunneling with Steel Casing**”.

SECTION 314 - TRAFFIC STRIPING, CURB AND PAVEMENT MARKINGS, AND PAVEMENT MARKERS

314-2 REMOVAL OF TRAFFIC STRIPING AND CURB AND PAVEMENT MARKINGS.

314-2.1 General. To the "GREENBOOK", ADD the following:

The Contractor shall remove existing traffic striping and pavement markings shall be by hydro blasting (water blasting technology) cleaning methods only. The use of abrasives other than those specified herein will not be permitted unless approved, in writing, by the Engineer. Obliteration with black paint or emulsified asphalt will not be allowed.

SECTION 315 - HORIZONTAL DIRECTIONAL DRILLING

315 - 1 GENERAL. To the "WHITEBOOK", ADD the following:

2. All Work under this section shall be subject to the applicable permanent resurfacing restoration requirements in accordance with the following City of San Diego Standard Drawings as included in **Appendix L – Standard Drawings**. Payment for pavement restoration, including influence area, shall be included in the associated Bid Items pertinent to the Work.

   a) SDG-105, "Pavement Restoration General Notes"

   b) SDG-107, "Pavement Restoration for Asphalt Concrete Surfaced Streets - Major Excavation"

   c) SDG-108, "Pavement Restoration for Concrete Surfaced Streets and Alleys - Major Excavation"

   d) SDG-117, "Pavement Restoration for Asphalt Concrete Surface Streets - Minor Excavation"

   e) SDG-118, "Pavement Restoration for Concrete Surface Streets and Alleys - Minor Excavation"

315-14 MEASUREMENT AND PAYMENT. To the "WHITEBOOK", ADD the following:

3. See Section 315 -1 GENERAL for permanent resurfacing requirements.

SECTION 316 – PIPE BURSTING

316 - 1 GENERAL. To the "WHITEBOOK", ADD the following:

2. All Work under this section shall be subject to the applicable permanent resurfacing restoration requirements in accordance with the following City of San Diego Standard Drawings as included in **Appendix L – Standard Drawings**. Payment for pavement restoration, including influence area, shall be included in the associated Bid Items pertinent to the Work.

   a) SDG-105, "Pavement Restoration General Notes"

   b) SDG-107, "Pavement Restoration for Asphalt Concrete Surfaced Streets - Major Excavation"

c) SDG-108, “Pavement Restoration for Concrete Surfaced Streets and Alleys - Major Excavation"

d) SDG-117, “Pavement Restoration for Asphalt Concrete Surface Streets - Minor Excavation"

e) SDG-118, “Pavement Restoration for Concrete Surface Streets and Alleys - Minor Excavation”

316-9 MEASUREMENT AND PAYMENT. To the “WHITEBOOK”, ADD the following:

3. See Section 316 -1 GENERAL for permanent resurfacing requirements.

SECTION 317 – PIPE FUSION

317-1 PIPE FUSION FOR SEWER MAINS. To the “WHITEBOOK”, ADD the following:

1. All Work under this section shall be subject to the applicable permanent resurfacing restoration requirements in accordance with the following City of San Diego Standard Drawings as included in **Appendix L – Standard Drawings**. Payment for pavement restoration, including influence area, shall be included in the associated Bid Items pertinent to the Work.

a) SDG-105, “Pavement Restoration General Notes”

b) SDG-107, “Pavement Restoration for Asphalt Concrete Surfaced Streets - Major Excavation”

c) SDG-108, “Pavement Restoration for Concrete Surfaced Streets and Alleys - Major Excavation"

d) SDG-117, “Pavement Restoration for Asphalt Concrete Surface Streets - Minor Excavation"

e) SDG-118, “Pavement Restoration for Concrete Surface Streets and Alleys - Minor Excavation”

317-1.10 Payment. To the “WHITEBOOK”, ADD the following:

3. See Section 317-1 PIPE FUSION FOR SEWER MAINS for permanent resurfacing requirements.

317-2.12 Payment. To the “WHITEBOOK”, ADD the following:

3. See Section 317-1 PIPE FUSION FOR SEWER MAINS for permanent resurfacing requirements.

ADD:

SECTION 318 – PIPE BURSTING POTABLE WATER PRESSURE PIPE

318-1 GENERAL.

1. Pipe bursting is the process of bursting the existing pipe and compressing the old pipe sections into the surrounding soil while simultaneously installing a new pipe of the same or larger size inside the annulus created followed by water service reconnections. When specified or as approved by the Engineer, pipe bursting shall be subject to these specifications.

2. Pipe supplier shall furnish fusible polyvinyl chloride pipe conforming to all standards and procedures and meeting all testing and material properties as described in this specification.

3. This section specifies fusible polyvinyl chloride pipe (FPVC). FPVC shall be in accordance with this section and 209-8 "Fusible pressure polyvinyl chloride (PVC) Pipe". Where there are contradictions between these sections, the most stringent shall apply.

318-2 CONTRACTOR'S QUALIFICATIONS AND SUBMITTALS.

1. You shall be a certified installer trained and experienced in the use of the pipe bursting method. The pipe welding or fusing shall be performed by personnel trained, experienced, and certified in the use of the welding or fusing equipment.

2. You shall submit the following items for the Engineer's approval prior to ordering pipe materials and the start of the Work:

   a) List of past projects successfully completed by the personnel leading the Work, including at least 5 miles in the last 5 years, and current reference for each project.

   b) Certification that you are licensed by the trenchless pipe replacement system manufacturer as an installer of their system.

   c) Pipe fusion or welding operator certification by the fusion or welding equipment manufacturers.

   d) Construction procedure for pipe installation:

      i. Geotechnical boring plan to investigate the existing geotechnical conditions that exist in the areas where pipe bursting is proposed. The Contractor shall conduct a geotechnical investigation at both ends of proposed pipe bursting locations for all segments within the project limits.

      ii. Proposed dimensions, locations, methods of excavation, shoring, and bracing of insertion and receiving pits.

      iii. Equipment technical data and operating procedures.

iv. Manufacturer recommendations for handling, storage, and repair of pipe and fittings.

v. Potholing, Ground Penetrating Radar (GPR), or CCTV inspection performed to locate live services, bends, obstructions, and all other necessary information. CCTV, if used shall be in accordance with 500-3.4, "Video Inspection".

vi. Proposed point repair locations and methods.

vii. Method of construction, reconnection, and restoration of existing water services.

e) Pipe physical properties and specifications. Calculations indicating that the method or process used does not exceed the allowable tensile and compression limits of the pipe. Provide the proposed tracking method to be used during construction.

318-3 FUSIBLE POLYVINYL CHLORIDE (FPVC) PIPE INSTALLATION.

1. Installation guidelines from the pipe supplier shall be followed for all installations.

2. The fusible polyvinylchloride pipe will be installed in a manner so as not to exceed the recommended bending radius.

3. Where fusible polyvinylchloride pipe is installed by pulling in tension, the recommended Safe Pulling Force established by the pipe supplier shall not be exceeded.

4. Sections of FPVC replacement pipe shall be assembled and joined on the Site. The replacement pipe shall be joined in appropriate working lengths. Jointing shall be accomplished by the heating and butt-fusion system in strict conformance with the manufacturer's printed instructions. The beads shall be removed prior to pipe installation. The final pipe surfaces shall be smooth after bead removal. Joints shall be made available for inspection by the Engineer before insertion.

5. Pipes shall be capable of withstanding all forces imposed in the process of installation and the final in-place loading conditions. The pipe, including the ends and joints, shall be protected against damage. Any pipe damaged during installation shall be replaced by you. The replacement of damaged pipe or installation of a new pipe shall be at no additional cost to the City.

6. The installed replacement pipe shall be continuous over the entire length of each pipe segment from manhole to manhole. 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.

318-4 FUSION PROCESS.

1. GENERAL

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

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

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

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

i. HEAT PLATE - Heat plates shall be in good condition with no deep gouges or scratches. Plates shall be clean and free of any debris or contamination. Heater controls shall function properly; cord and plug shall be in good condition. The appropriately sized heat plate shall be capable of maintaining a uniform and consistent heat profile and temperature for the size of pipe being fused, per the pipe supplier's guidelines.

ii. 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.

iii. GENERAL MACHINE - Overview of machine body shall yield no obvious defects, missing parts, or potential safety issues during fusion.

iv. DATA LOGGING DEVICE – An approved datalogging device with the current version of the pipe supplier's recommended and compatible software shall be used. Datalogging device operations and maintenance manual shall be with the unit at all times. If fusing for extended periods of time, an independent 110V power source shall be available to extend battery life.

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

i. Pipe rollers shall be used for support of pipe to either side of the machine

ii. A weather protection canopy that allows full machine motion of the heat plate, fusion assembly and carriage shall be provided for fusion in inclement, extreme temperatures, and/or windy weather, per the pipe supplier's recommendations.

iii. An infrared (IR) pyrometer for checking pipe and heat plate temperatures.

iv. Fusion machine operations and maintenance manual shall be kept with the fusion machine at all times.

v. Facing blades specifically designed for cutting fusible polyvinylchloride pipe shall be used.

2. JOINT RECORDING

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

3. TAPPING FOR POTABLE AND NON-POTABLE WATER APPLICATIONS

a) Tapping shall be performed using standard tapping saddles designed for use on PVC piping in accordance with AWWA C605. Tapping shall be performed only with use of tap saddles or sleeves. NO DIRECT TAPPING WILL BE PERMITTED. Tapping shall be performed in accordance with the applicable sections for Saddle Tapping per Uni-Pub-8.

b) 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.

c) Equipment used for tapping shall be made specifically for tapping PVC pipe:

i. Tapping bits shall be slotted "shell" style cutters, specifically made for PVC pipe. 'Hole saws' made for cutting wood, steel, ductile iron, or other materials are strictly prohibited.

ii. Manually operated or power operated drilling machines may be used.

d) 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).

318-5 HYDROSTATIC TESTING.

1. See 317-2.9 "Hydrostatic Test for Pressure Pipe"

318-6 DISINFECTION.

1. See 317-2.10 "Disinfection of the Potable Water Pipe"

318-7 GROUND MONITORING.

1. See 315-10, "GROUND MONITORING".

318-8 VIDEO INSPECTION AND CLEANING.

1. See 306-18 “Video Inspection”.

318-9 PAYMENT.

1. The payment for pipe bursting Work shall include the pipe material and shall be included in the linear foot Bid item for “**Water Main by Pipe Bursting**”.

2. The payment for each water service connection associated with Pipe Bursting shall be included in the Bid item for “**Water Service Lateral Connection Water Main Pipe Bursting**”.

SECTION 400 – PROTECTION AND RESTORATION

400-1 GENERAL. To the “WHITEBOOK”, ADD the following:

6. All Work under this section shall be subject to the applicable permanent resurfacing restoration requirements in accordance with the following City of San Diego Standard Drawings as included in **Appendix L – Standard Drawings**. Payment for pavement restoration, including influence area, shall be included in the associated Bid Items pertinent to the Work.

   a) SDG-105, “Pavement Restoration General Notes”

   b) SDG-107, “Pavement Restoration for Asphalt Concrete Surfaced Streets - Major Excavation”

   c) SDG-108, “Pavement Restoration for Concrete Surfaced Streets and Alleys - Major Excavation"

   d) SDG-117, “Pavement Restoration for Asphalt Concrete Surface Streets - Minor Excavation"

   e) SDG-118, “Pavement Restoration for Concrete Surface Streets and Alleys - Minor Excavation”

SECTION 401 – REMOVAL

401-3.1 Concrete Pavement. To the "WHITEBOOK", ADD the following:

4. See Section 400 -1 GENERAL for permanent resurfacing requirements.

401-3.2 Concrete Curb, Walk, Gutters, Cross Gutters, Curb Ramps, Driveway, and Alley Intersections. To the "WHITEBOOK", ADD the following:

7. See Section 400 -1 GENERAL for permanent resurfacing requirements.

SECTION 402 – UTILITIES

402-1.1 General. To the "GREENBOOK", paragraph 5, DELETE in its entirety and SUBSTITUTE with the following:

The Contractor shall complete excavation, backfill, and placement of temporary resurfacing on the same Day. Backfill shall conform to 306-12 Temporary resurfacing

shall conform to 306-13.1. Permanent resurfacing shall be placed within 10 Working Days unless otherwise specified in the Special Provisions or directed by the Engineer. See Section 400 -1 GENERAL for permanent resurfacing requirements.

To the "WHITEBOOK", item 2, DELETE in its entirety and SUBSTUTUTE with the following:

2. You shall fill all potholes on the same day of potholing if no trenching is to be performed within 10 Working Days of the excavation. Fully restore all potholes and any damaged surrounding areas to their original condition unless otherwise specified by the Engineer. Permanent resurfacing shall conform to SDG-123, "36-Inch and Smaller Pothole and Exploratory Excavation" as included in **Appendix L – Standard Drawings**.

402-2 PROTECTION. To the "WHITEBOOK", item 2, ADD the following:

g) Refer to **Appendix K** - **Advanced Metering Infrastructure (AMI) Device Protection** for more information on the protection of AMI devices.

402-6 COOPERATION. To the "WHITEBOOK**",** ADD the following:

1. Notify SDG&E at least **60 Working Days** prior to excavating within 10 feet of SDG&E Underground High Voltage Transmission Power Lines (69 KV and higher).

402-8 PAYMENT. To the "WHITEBOOK", ADD the following:

6. Payment for pavement restoration, including influence area, shall be included in the associated Bid items pertinent to the Work**.**

SECTION 404 – COLD MILLING

404-1 GENERAL. To the "WHITEBOOK", item 1, DELETE in its entirety and SUBSTITUTE with the following:

1. Excessive asphalt concrete pavement adjacent to Type "G" and "H" curb and gutter lines and concrete cross gutters shall be milled in accordance with the City of San Diego Standard Drawing SDG-107, "Pavement Restoration for Asphalt Concrete Surfaced Streets - Major Excavation" as included in **Appendix L – Standard Drawings** or as shown on the Plans.

SECTION 500 – PIPELINE REHABILITATION

500-1 GENERAL. To the "WHITEBOOK", ADD the following:

5. All Work under this section shall be subject to the applicable permanent resurfacing restoration requirements in accordance with the following City of San Diego Standard Drawings as included in **Appendix L – Standard**

Drawings. Payment for pavement restoration, including influence area, shall be included in the associated Bid Items pertinent to the Work.

a) SDG-105, "Pavement Restoration General Notes"

b) SDG-107, "Pavement Restoration for Asphalt Concrete Surfaced Streets - Major Excavation"

c) SDG-108, "Pavement Restoration for Concrete Surfaced Streets and Alleys - Major Excavation"

d) SDG-117, "Pavement Restoration for Asphalt Concrete Surface Streets - Minor Excavation"

e) SDG-118, "Pavement Restoration for Concrete Surface Streets and Alleys - Minor Excavation"

500-4.7 **Payment.** To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. The point repair Work shall be measured and paid for in the Bid Item for each "**Point Repair for Existing Sewer Main**". Measurement shall be made at the pipe and shall be based on the length of pipe repaired. You shall be paid for 1 point repair for each repair 8 ft (2.43 m) or less in length. Any continuous point repair greater than 8 ft (2.43 m), shall be paid linearly proportioned to bid item "Point Repair for Existing Sewer Main". This payment shall include all necessary labor, materials, and equipment to clean, repair, excavate, inspect the Point Repair, backfill and restore pavement. See 500-1 General for permanent pavement restoration requirements.

SECTION 503 – SERVICE LATERAL REHABILITATION

503-1 **GENERAL.** To the "WHITEBOOK", ADD the following:

7. All Work under this section shall be subject to the applicable permanent resurfacing restoration requirements in accordance with the following City of San Diego Standard Drawings as included in **Appendix L – Standard Drawings**. Payment for pavement restoration, including influence area, shall be included in the associated Bid items pertinent to the Work.

a) SDG-105, "Pavement Restoration General Notes"

b) SDG-107, "Pavement Restoration for Asphalt Concrete Surfaced Streets - Major Excavation"

c) SDG-108, "Pavement Restoration for Concrete Surfaced Streets and Alleys - Major Excavation"

d) SDG-117, "Pavement Restoration for Asphalt Concrete Surface Streets - Minor Excavation"

e) SDG-118, "Pavement Restoration for Concrete Surface Streets and Alleys - Minor Excavation"

503-6 **PAYMENT.** To the "WHITEBOOK", item 3, DELETE in its entirety and SUBSTITUTE with the following:

3. The point repair Work for sewer laterals shall be in accordance with 500-4, “PIPELINE POINT REPAIR AND/OR REPLACEMENT” and shall be included in the Bid Item for each “**Point Repair for Existing Sewer Lateral**”. Measurement shall be made at the pipe and shall be based on the length of pipe repaired. You shall be paid for 1 point repair for each repair 8 ft (2.43 m) or less in length. Any continuous point repair greater than 8 ft (2.43 m), shall be paid linearly proportioned to bid item “Point Repair for Existing Sewer Main”. This payment shall include all necessary labor, materials, and equipment to clean, repair, excavate, inspect the Point Repair, backfill, pavement restoration (and influence area) including sidewalks, driveways and any other above ground improvements

SECTION 700 - MATERIALS

700-1.3 **(86-1.02B) Conduit.** To the "WHITEBOOK", item 1, DELETE in its entirety and SUBSTITUTE with the following:

1. When approved by the Engineer, conduit runs shown on the plans to be located behind curbs may be installed in the street, within 4 feet of and parallel to the curb, by narrow trenching. All pull boxes shall be located behind the curb or at locations shown on the plans. Narrow trenching shall be performed in accordance with the latest City Standards. Any changes in conduit location shall be approved in advance by the Engineer. All narrow trenching shall conform to the City of San Diego Standard Drawings SDG-117, “Pavement Restoration for Asphalt Concrete Surface Streets - Minor Excavation", SDG-118, “Pavement Restoration for Concrete Surface Streets and Alleys - Minor Excavation” as included in **Appendix L – Standard Drawings** and be inspected prior to backfill. Trenches behind sidewalks shall be compacted using compaction tools to ensure no sinking of trench will occur. Trenches wider than 6 inch (15.2 cm) shall conform to the City of San Diego Standard Drawings SDG-107, “Pavement Restoration for Asphalt Concrete Surfaced Streets - Major Excavation" as included in **Appendix L – Standard Drawings**, SDG-108, "Pavement Restoration for Concrete Surfaced Streets and Alleys - Major Excavation", and SDG–119, “Trench Types G, H & I Backfill for Dry Utility”. A 3-inch (7.6 mm) bed of fine soil or sand shall be placed in the trench.

SECTION 701 - CONSTRUCTION

701-2 **PAYMENT.** To the "WHITEBOOK", item 3, DELETE in its entirety and SUBSTITUTE with the following:

3. The payment for the trenching and pavement restoration, including influence areas, is included in the payment for the associated Work.

802-2.1 **Project Biologist.** To the “WHITEBOOK”, ADD the following:

5. You shall 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 901 – INSTALLATION AND CONNECTION

901-1.1.2.3 High-lining Removed by the Contractor. To the "WHITEBOOK", item 2, DELETE in its entirety and SUBSTITUTE with the following:

2. After removing all high-lining construction material and debris, you shall restore streets, curbs, gutters, sidewalks, fire hydrants, and other disturbed facilities in accordance with PART 4 - EXISTING IMPROVEMENTS. Street resurfacing shall be restored in accordance with the SDG-107, "Pavement Restoration for Asphalt Concrete Surfaced Streets - Major Excavation", SDG-108, "Pavement Restoration for Concrete Surfaced Streets and Alleys - Major Excavation" as included in **Appendix L – Standard Drawings**.

901-2.4 Pavement Restoration. To the "WHITEBOOK", item 2, DELETE in its entirety and SUBSTITUTE with the following:

2. After the final connection is completed, you shall remove all temporary resurfacing, compact sub-grade and restore affected area with permanent resurfacing in accordance with the following City of San Diego Standard Drawings as included in **Appendix L – Standard Drawings**. Payment for pavement restoration, including influence area, shall be included in the associated Bid Items pertinent to the Work.

   a) SDG-105, "Pavement Restoration General Notes"

   b) SDG-107, "Pavement Restoration for Asphalt Concrete Surfaced Streets - Major Excavation"

   c) SDG-108, "Pavement Restoration for Concrete Surfaced Streets and Alleys - Major Excavation"

   d) SDG-117, "Pavement Restoration for Asphalt Concrete Surface Streets - Minor Excavation"

   e) SDG-118, "Pavement Restoration for Concrete Surface Streets and Alleys - Minor Excavation"

901-2.5 Payment. To the "WHITEBOOK", item 1, subitem g, and item 3, DELETE in their entirety and SUBSTITUTE with the following:

   g) Pavement Restoration including influence area.

3. Traffic Control, saw cutting the trench area, trench caps, and other spot repairs in the vicinity of the disturbed area at each restored connection shall be included in the square foot Bid Item for "**Pavement Restoration for Final Connection**". Asphalt overlay Work shall be paid for under separate Bid items.

SECTION 1001 – CONSTRUCTION BEST MANAGEMENT PRACTICES (BMPs)

1001-1 GENERAL. To the "WHITEBOOK", ADD the following:

8. Based on a preliminary assessment by the City, this Contract is subject to **WPCP**.

TECHNICALS

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TECHNICAL SPECIFICATIONS
GROUP JOB 965 PRESSURE REDUCING STATION

SECTION 13110
GALVANIC ANODE CATHODIC PROTECTION

PART 1 GENERAL

1.01 WORK OF THIS SECTION

A. Furnish all labor, materials, tools and incidentals to install a galvanic anode cathodic protection system for the City of San Diego's Water & Sewer Group 965 Dielectrically Coated Steel Pipeline. Cathodic protection installation, inspection, and testing are required for a complete and workable system.

B. The CONTRACTOR shall retain a qualified CORROSION ENGINEER to direct the construction of facilities specified herein. The CORROSION ENGINEER shall test and certify that the corrosion control facilities for this project are constructed properly and as specified, and are fully functional.

1.02 DEFINITIONS

A. CONTRACTOR: The licensed prime installer selected by the OWNER to install the pipeline.

B. OWNER: The City of San Diego.

C. CORROSION ENGINEER: A qualified CORROSION ENGINEER retained by the CONTRACTOR who is either a Registered Professional CORROSION ENGINEER or NACE-International Certified CATHODIC PROTECTION SPECIALIST.

D. ENGINEER: The City of San Diego's Resident ENGINEER or designated representative.

E. CITY'S CORROSION ENGINEER: The ENGINEER'S appointed representative from the City's Corrosion Section.

1.03 CONTRACTOR QUALIFICATIONS

A. All work must be conducted by qualified, experienced personnel working under the direct supervision of a CORROSION ENGINEER. The CONTRACTOR doing the electrical installations shall have proper valid State of California licenses.

1.04 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

A. American Society for Testing and Materials (ASTM):

C94	Ready-Mixed Concrete
D-2220	Polyvinylchloride Insulation for Wire and Cable
D-1248	Polyethylene Plastics Molding and Extrusion Materials
B3	Soft or Annealed Copper Wire
B8	Concentric-Lay Stranded Copper Conductors

B. Federal Specifications (FS)
Military Specification (Mil. Spec):

MIL-C-18480B Coating Compound, Bituminous, Solvent, Coal Tar Base

C. Underwriter's Laboratories, Inc. (UL) Publications:

83-80 Thermoplastic-Insulated Wires

486-76 Wire Connectors and Soldering Lugs for Use with Copper Conductors

D. National Association of Corrosion ENGINEERs (NACE):

SP0169 Recommended Practice, Control of External Corrosion on Underground or Submerged Metallic Piping Systems

SP0286 Electrical Isolation of Cathodically Protected Pipelines

1.05 CONTRACTOR SUBMITTALS

A. The CONTRACTOR shall furnish the following documents to the ENGINEER and the catalog cuts shall be accepted prior to installation:

B. CATALOG CUTS (5 COPIES):

1. Standard potential magnesium anode
2. At-grade, traffic-rated concrete test box with cast iron lid
3. Shunts
4. Wire and cable
5. Exothermic weld kits
6. Weld caps
7. Weld coating
8. Plastic warning tape
9. Flange Isolation kits
10. Wax tape coating system

C. AS-BUILT DRAWINGS

The CONTRACTOR shall maintain As-Built drawings showing exact locations of anodes, insulators, test stations, and wire trenching runs. Location changes from the design shall be clearly marked in red on a blue line copy of the design drawings. The As-Built drawings shall be submitted to the ENGINEER at the end of the project. The project is not considered complete until As-Built drawings are submitted.

D. CORROSION ENGINEERS QUALIFICATIONS

The CONTRACTOR must submit the CORROSION ENGINEER'S certifications and qualifications as part of the submittal package.

E. CORROSION ENGINEER'S REPORT

The CONTRACTOR shall submit the CORROSION ENGINEER'S report within 5 days after the final testing is completed for the project. See Part 4 - Testing. The Report shall be submitted in hard copy and electronic format. The electronic copy shall be digitally signed. The project is not considered complete until the report and test data are submitted.

PART 2 PRODUCTS

2.01 GENERAL

A. Materials and equipment shall be new and the standard product of manufacturers regularly engaged in the manufacturing of such products. All materials and equipment shall bear evidence of safe operation approval from a nationally recognized testing laboratory.

2.02 STANDARD POTENTIAL MAGNESIUM ANODES

A. CAPACITY. Standard potential magnesium anodes shall have a theoretical energy content of 1000 ampere-hours per pound and have a minimum useful output of 500 ampere-hours per pound.

B. CHEMICAL COMPOSITION (STANDARD POTENTIAL MAGNESIUM) ASTM B843

aluminum	5.3 to 6.7 percent
manganese	0.15 to 0.7 percent
zinc	2.5 to 3.5 percent
copper	0.02 percent max
nickel	0.002 percent max
iron	0.03 percent max
silicon	0.10 percent max
calcium	-
others, total	0.30 percent max
magnesium	remainder

C. OPEN CIRCUIT POTENTIAL. The open circuit potential of all anodes, buried in the soil, shall be between 1.52 and 1.60 volts dc versus a copper-copper sulfate reference electrode.

D. INGOT SIZE AND WEIGHT. Anodes shall be 17-pound pre-packaged, standard potential ingots with a trapezoidal cross section. Ingot length shall be 25.25 inches long. The total packaged weight shall be 45 lbs.

E. ANODE CONSTRUCTION. Anodes shall be cast magnesium with a galvanized steel core rod recessed on one end to provide access to the rod for connection of the lead wire. Silver braze the lead wire to the rod and make the connection mechanically secure. Insulate the connection to a 600 volt rating by filling the recess with epoxy and covering any exposed bare steel core or wire with heat shrinkable tubing. The insulating tubing shall extend over the lead wire insulation by not less than 1/2 inch. The anode lead wire shall be stranded copper and shall be connected directly to the anode steel core as described above. There shall be NO wire splices between the anode steel core and the tag end at the test station.

F. ANODE PRE-PACKAGED BACKFILL MATERIAL. The anodes shall be completely encased and centered within a permeable cloth bag in a special low resistivity backfill mix with the following composition:

Gypsum	75%
Powdered bentonite	20%
Anhydrous sodium sulfate	5%

G. Backfill grains shall be such that 100 percent is capable of passing through a screen of 100 mesh. Backfill shall be firmly packed around the anode such that the ingot is approximately in the center of the backfill. The resistivity of the backfill shall be no greater than 50 ohm-cm when tested wet in a soil box. Total prepackaged weight shall be approximately 45 pounds.

2.03 AT-GRADE TEST STATIONS

A. At-Grade (Flush) Mounted:

1. Test Box: Concrete box of dimensions as shown on the Drawings. Use pre-cast concrete San Diego Pre-cast Model 1BSD\K with cast iron lid. The cast iron lid shall be 9-1/2 inch diameter with the letters “City of San Diego Corrosion Test Station”.

2. Identification Tags: All test leads shall be identified with an Avery Label, self-adhesive covered with polyolefin clear heat shrink tubing. The label shall include: Name of Facility – size – pipe material; Type of insulation; Station number. Brass tags may be used in lieu of the Avery Label with approval from the ENGINEER.

2.04 SHUNTS

A. Holloway Type RS, 0.01 ohm, 6 ampere capacity.

2.05 WIRES

A. General: Conform to applicable requirements of NEMA WC 5 and WC 7. All wires shall be single conductor, unless otherwise specified. All wires shall be single

conductor, stranded copper wire with 600-volt HMWPE insulation, unless otherwise specified.

B. Mechanical Joint (Non-Welded Pipe Joint) Bond: Two No. 2 AWG HMWPE.

C. Pipeline Test Leads: Two No. 8 AWG HMWPE.

D. Anode Wires: No. 12 AWG THWN with white insulation.

2.06 CONCRETE

A. Reinforcing steel: ASTM A 615, Grade 60 deformed bars and welded wire fabric.

B. Welded Wire Fabric: ASTM A 497.

C. Formwork: Plywood, earth cuts may be used.

D. Concrete Design for Minimum Compressive Strength at 28 Days.

2.07 ANCILLARY MATERIALS

A. Electrical Tape: Linerless rubber high-voltage splicing tape and vinyl electrical tape suitable for moist and wet environments. Use Scotch 130C and Scotch 88 as manufactured by 3M Products.

B. Wire Connectors: One-piece, tin-plated crimp-on lug connector as manufactured by Burndy Co., Thomas and Betts.

C. Insulating Resin: At CONTRACTOR'S option, bitumastic coating (Koppers 50 or approved equal) may be used if allowed to dry completely before covering.

2.08 MARKING TAPE

A. Inert polyethylene, impervious to known alkalis, acids, chemical reagents, and solvents likely to be encountered in soil.

B. Thickness: Minimum 4-mils.

C. Width: 6-inches.

D. Identifying Lettering: Minimum 1-inch high, permanent black lettering imprinted continuously over entire length.

E. Color: Red with black lettering as follows: "CAUTION CATHODIC PROTECTION CABLES BURIED BELOW."

2.09 EXOTHERMIC WELDS

A. General: Wire sleeves, welders, and weld cartridges according to the weld manufacturer's recommendations for each wire size and pipe or fitting size and

material. Welding materials and equipment shall be the product of a single manufacturer. Interchanging materials of different manufacturers will not be accepted.

B. Weld Caps: Exothermic welds shall be sealed with a pre-fabricated plastic cap filled with formable mastic compound on a base of elastomeric tape. Use Royston Handy Cap or approved equivalent. Primer for weld caps shall be Royston Roybond Primer 747 or approved equivalent.

C. Weld Coating: Exothermic welds and weld caps shall be coated with a cold-applied, fast-drying mastic consisting of bituminous resin and solvents per MIL-C-18480B. Use Carboline Bitumastic 50, Tnemec 40-H413, Tapecoat TC Mastic, 3M Scotch Clad 244, or approved equal. The minimum coating thickness shall be 25 mils (0.025 inch).

2.10 INSULATING JOINTS

A. Flange Isolation Kits:

1. Gaskets: ANSI B-16.21, Type E, NEMA G10 glass with o-ring seal for operation between 20-deg. F and 150-deg. F. Gaskets shall be suitable for the temperature and pressure rating of the piping system in which they are installed.

2. Insulating Sleeves: 1/32-inch thick tube, full length, G10 glass material per NEMA LI-1 for operation between 20-deg. F and 150-deg. F. For installation at threaded valve flanges, half-length sleeves shall be used.

3. Insulating Washers: 1/8-inch thick, full length, G10 glass per NEMA LI-1 for operation between 20-deg. F and 150-deg. F.

4. Steel Washers: 1/8-inch cadmium plated steel placed between the nut and insulating washer.

5. All buried insulating flanges shall be wax taped coated per AWWA C217 with plastic outer wrap.

2.11 EXTERNAL COATING FOR BURIED SURFACES

A. All buried pipe sections, specials, and fitting surfaces that are not tape wrapped or epoxy coated shall be wrapped with a petrolatum wax tape coating per AWWA C217 with plastic outer wrap. No bare metallic surfaces shall be buried, backfilled, or in contact with the soil.

1. Primer: All surfaces shall be prime coated with a blend of petrolatum, plasticizer, inert fillers, and corrosion inhibitors having a paste-like consistency.

2. Wax Tape: Covering material shall be a synthetic felt tape, saturated with a blend of petrolatum, plasticizers, and corrosion inhibitors that is formable over irregular surfaces.

3. Plastic Outer Wrap: The primed and wax taped surface shall be covered with a plastic outer wrap consisting of three layers of 50-guage (10-mil) polyvinylidene chloride or PVC, high cling membrane wound together.

PART 3 EXECUTION

3.01 GENERAL

A. STANDARD. Work not specifically described herein shall conform to NACE SP0169, NACE SP0286, and the Standard Specifications for Public Works Construction 2012 (Greenbook).

B. TEST RESULTS. The CONTRACTOR shall submit a CORROSION ENGINEER'S report including all test data, conclusions, repairs, and cathodic protection system performance.

C. NOTIFICATION FOR TESTING. The CONTRACTOR shall notify the ENGINEER at least seven days in advance of the anodes, insulators, and test station installations. The ENGINEER or the OWNER'S representative shall, at their discretion, witness the installation of all anodes and cathodic protection facilities. Testing shall be as described in this specification section.

3.02 MAGNESIUM ANODES

A. INSPECTION. All lead wires shall be inspected to ensure that the lead wire is securely connected to the anode core and that no damage has occurred to the lead wire. Lead wire failures shall require replacement of the complete anode and lead wire.

B. PRE-PACKAGED ANODE INSPECTION. Each anode shall be inspected to ensure that the backfill material completely surrounds the anode and that the cloth bag containing the anode and backfill material is intact. If the prepackaged anodes are supplied in a waterproof container or covering, that container or covering shall be removed before installation. The CONTRACTOR shall notify the ENGINEER at least seven (7) days in advance of installing the anodes.

C. LOCATION. Anodes are to be installed in augured holes as shown in the drawings. Anode positions can be adjusted slightly to avoid interference with existing structures. Alternate anode positions must be approved by the ENGINEER.

D. HANDLING. Care shall be taken to ensure that the anode is never lifted, supported, transported, or handled by the lead wire. All anodes shall be lowered into the hole using a sling or a rope.

E. ANODE HOLE SIZE AND DEPTH. Anodes shall be placed vertically at the bottom of a 12 feet deep augured hole, 12 inches in diameter (minimum).

F. SOAKING REQUIREMENTS, PRE-PACKAGED ANODES. Once the prepackaged anodes are in the hole, water shall be poured into the hole so that the anodes are

completely covered with water. Allow the anodes to soak for a minimum of 30 minutes before any soil backfill is added.

G. SOIL BACKFILL. After the pre-packaged anodes are soaked, the hole is backfilled with stone-free, native soil. No voids shall exist around the anode bags and the anode lead wire shall not be damaged. The backfill shall be tamped and compacted in 18 inch lifts above the anode taking care not to damage the anode lead wire.

3.03 AT-GRADE TEST STATIONS

A. LOCATION. At-grade corrosion monitoring test boxes shall be located behind the curb or sidewalk and NOT in traffic lanes or gutters. All test box locations shall be approved by the ENGINEER.

B. TEST BOX BOTTOM. Test boxes shall be set in native soil.

C. TEST LEAD ATTACHMENT. Test leads shall be attached to the pipe using the exothermic weld process. An 18-inch length of slack wire shall be coiled at each weld and inside each test box.

D. CONCRETE PAD. A 24-inch square by 4-inch thick reinforced concrete pad is required around each at-grade test station. Test boxes and concrete pad shall be flush with the top of the median curb.

3.04 WIRE AND CABLE

A. TEST LEAD TRENCH. Horizontal test or anode lead runs shall be placed in a 36-inch trench.

B. WIRE HANDLING. Wire leads shall not be stretched or kinked. Care shall be taken when installing wire and backfilling. If wire insulation is damaged during installation, it shall be rejected and replaced completely at the CONTRACTOR's expense. All rejected wire shall be removed from the job site at the close of each workday.

C. PLASTIC WARNING TAPE. Plastic warning tape shall be installed in all wire trenches and 12 inches below finished grade.

D. SPLICING. Wire splices are not permitted.

3.05 WIRE-TO-PIPE CONNECTIONS

A. All connections of copper wires to the pipe shall be made by the exothermic weld method.

B. WELD CHARGE SIZE. It is the CONTRACTOR’S responsibility to ensure that the manufacturer’s recommended weld charge size is used.

C. PREPARATION OF WIRE. Do not deform cable. Remove only enough insulation from the cable to allow for the exothermic weld.

D. PREPARATION OF METAL. Remove all coating, dirt, grime and grease from the metal structure by wire brushing. Clean the structure to a bright, shiny surface free of all serious pits and flaws by using a file. The surface area of the structure must be absolutely dry.

E. WIRE POSITION. The wire is to be held at a 30-degree angle to the surface when welding. Only one wire shall be attached with each weld.

F. TESTING OF ALL COMPLETED WELDS. After the weld has cooled, the weld shall be tested by striking the weld with a 2-lb hammer while pulling firmly on the wire. All unsound welds shall be cleaned, re-welded, and re-tested. All weld slag shall be removed.

G. COATING OF WELDS. The area to be coated shall be clean and completely dry. Apply a primer specifically intended for use with an elastomeric weld cap. Apply the weld cap and a bituminous mastic coating material to all exposed areas around the cap in accordance with the manufacturer's recommendations. The coating shall overlap the structure coating by a minimum of 3 inches.

H. COATING REPAIRS. Coatings shall be repaired in the field per the coating manufacturer’s recommendations. All coating repairs must be approved by the ENGINEER.

3.06 BOND WIRES

A. NON-WELDED JOINT BOND WIRES. Two No. 2 HMWPE bond wires are required across each non-insulating, in-line valve; a third No. 4 HMWPE bond wire is required from the valve to one outside flange as shown in the drawings. The bond wires shall be attached using the exothermic weld process. Bond wires shall have some slack wire at each weld to allow for creep when backfilling.

3.07 FLANGE ISOLATION KITS

A. General: Flange isolation kits shall be pre-assembled and installed as recommended by the manufacturer, and per NACE SP0286. Moisture, soil, and other foreign matter must be fully removed and prevented from contacting any portion of mating surfaces. If foreign matter contacts any portion of these surfaces, then the entire flange shall be disassembled, cleaned, and dried before reassembly.

B. Installation: Align and install insulating joints according to the manufacturer's recommendations to avoid damaging insulating materials. The manufacturer’s bolt tightening sequence and torque specifications shall be followed.

C. Paint Pigments: No electrically conductive pigments or paints shall be used either internally or externally on the bolts, washers, or flanges.

D. Inspection: All buried insulating flanges shall be inspected, tested, and approved by the ENGINEEER as described in Part 4 of this specification and prior to the application of wax tape coating.

3.08 EXTERNAL COATING

A. All insulating flanges shall be covered with a 3-layer wax tape coating system per AWWA C217 with plastic outer wrap. Additionally, all in-line valves, flanges couplings, and adapters that are not coated with a bonded dielectric coating shall be wax tape coated per AWWA C217 with plastic outer wrap.

B. Primer: Surfaces must be cleaned of all dirt, grime, and dust by using a wire brush and clean cloth. The surface shall be dry. Apply the primer by hand or brush. A thin coating of primer shall be applied to all surfaces and worked into all crevices. The primer shall be applied generously around bolts, nuts, and threads, and shall fully cover all exposed areas. The primer should overlap the pipe coating by a minimum of 3-inches.

C. Petrolatum Saturated Tape: The wax tape can be applied immediately after the primer. Short lengths of tape shall be cut and carefully molded around each individual bolt, nut, and stud end. For long bolts (such as in couplings), short lengths of tape shall be cut and circumferentially wrapped around each individual bolt. After the bolts are covered, the tape shall be circumferentially wrapped around the flange with sufficient tension to provide continuous adhesion without stretching the tape. The tape shall be formed, by hand, into all voids and spaces. There shall be no voids or gaps under the tape. The tape shall be applied with a 1-inch minimum overlap.

D. Outer Covering: A plastic outer cover shall be applied over the petrolatum-saturated tape. The plastic shall be a minimum of 50-guage (10-mils) and shall have two layers applied.

PART 4 TESTING AND INSPECTION

A. The CONTRACTOR'S CORROSION ENGINEER shall submit his proposed test procedures to the ENGINEER at least five (5) days in advance of the time that the cathodic protection system testing is scheduled. The ENGINEER or the OWNER'S representative shall witness all testing at their discretion. All test data shall be submitted to the ENGINEER within seven (7) days of the completion of the testing. All testing shall be conducted under the supervision of a qualified CORROSION ENGINEER who is retained by the CONTRACTOR. All deficiencies found to be due to faulty materials or workmanship shall be repaired or replaced by the CONTRACTOR and at his/her expense.

4.02 TEST LEADS

A. It is the CONTRACTOR's responsibility to test all test leads.

B. TEST METHOD. All completed wire connection welds shall be tested by striking the weld with a 2-lb hammer while pulling firmly on the wire. Welds failing this test shall be re-welded and re-tested. Wire welds shall be spot tested by the ENGINEER. After backfilling the pipe, all test lead pairs shall be tested using a standard ohmmeter.

C. ACCEPTANCE. The resistance between each pair of test leads shall not exceed 150% of the total wire resistance as determined from published wire data.

4.03 ANODE INSTALLATIONS

A. The CONTRACTOR shall ensure that the anode pre-packed backfill or sack is not damaged and that the anode lead wire is properly attached. The CONTRACTOR'S CORROSION ENGINEER shall inspect each anode bag and anode lead wire for integrity before the anode is installed in the anode hole. Additionally, the CORROSION ENGINEER shall verify anode hole depths. The ENGINEER or the OWNER'S Representative shall inspect and test the anode installations at their discrepancy.

B. TEST METHOD. A visual inspection of anode lead wires, anode pre-packed backfill, and anode hole depths (using tape measure). Obtain open-circuit anode potentials using a high impedance volt meter and copper/copper sulfate reference electrode.

C. ACCEPTANCE. All anode leads are properly attached (with no splices), anode hole depths verified, and open-circuit anode potentials are in compliance with this specification. Damaged test leads and damaged pre-packed anode backfill bags shall be rejected and removed from the project site.

4.04 TEST LEAD TRENCHING

A. The ENGINEER, at his or her discretion, shall inspect wire trenches and backfill material and methods.

B. TEST METHOD. The depth, trench bottom, padding, and backfill material shall be visually inspected prior to backfilling.

C. ACCEPTANCE. Conformance with specifications.

4.05 PIPELINE CONTINUITY THROUGH IN-LINE APPURTENANCES AND PIPE JOINTS

A. The CONTRACTOR'S CORROSION ENGINEER shall measure the linear resistance of sections of pipe in which in-line valves, non-welded pipe joints, or other flanged mechanical joints have been installed. All testing shall be done by the CORROSION ENGINEER in the presence of the ENGINEER.

B. TEST METHOD. Resistance shall be measured by the linear resistance method. A direct current shall be impressed from one end of the test section to the other (test station to test station). A voltage drop is measured for several different current levels. The measured resistance (R) is calculated using the equation R=dV/I, where dV is the voltage drop between the test span and I is the corresponding current. The resistance shall be measured for at least three (3) different current levels.

C. ACCEPTANCE. Acceptance is a comparison between the measured resistance (from the field test data) and the theoretical resistance. The theoretical resistance must consider the pipe (length and wall thickness) and the resistance of the bond wires. The measured resistance shall not exceed the theoretical resistance by more than 130% to determine electrical continuity. The CONTRACTOR'S CORROSION ENGINEER shall submit, within seven (7) days of the completion of the testing, and in a report format,

to the ENGINEER, all calculations of the theoretical resistance and measured pipe resistance for each section tested.

4.06 CATHODIC PROTECTION PERFORMANCE

A. The cathodic protection system shall be activated and tested by the CONTRACTOR'S CORROSION ENGINEER in the presence of the ENGINEER.

B. TEST METHOD. The installed cathodic protection system testing shall include: native (static) pipe-to-soil potentials, open-circuit anode potentials, activated pipe-to-soil potentials, test lead to test lead resistance measurements, and anode current output measurements.

C. ACCEPTANCE. Shall be based on achieving the –850 mV polarized potential criterion as outlined in NACE SP0169. All data shall be submitted, in a typed 8-1/2 X 11 inch report to the ENGINEER for acceptance before the project is considered complete.

4.07 FLANGE ISOLATION KITS

A. Responsibility: Insulating flanges shall be inspected and tested by the CONTRACTOR'S CORROSION ENGINEER and in the presence of the ENGINEER, prior to backfilling.

B. Test Method: The assembled flange shall be tested using a Gas Electronics Model 601 Insulation Checker specifically design for testing insulating flanges. The testing shall be done by a qualified CORROSION ENGINEER accepted by the ENGINEER. NACE SP0286 may also be used to determine the effectiveness and acceptance of the flange isolation kit.

C. Acceptance: The installation of the insulating flange kit shall be considered complete when the testing device indicates no shorts or partial shorts are present. The CONTRACTOR shall provide assistance in finding any and all shorts or shorted bolts. All disassembly and reassembly necessary for acceptance shall be done at the CONTRACTOR'S expense.

4.08 ELECTRICAL ISOLATION TESTING BETWEEN PIPE AND STEEL REINFORCEMENT

A. Conduct visual and electrical testing before and after concrete placement to demonstrate that all buried steel pipe is not in contact with steel reinforcement in concrete structures and pipe encasements, including all embedded rebar tie wires, snap ties, she-bolts, tie rods, taper ties, and dowels. Perform this testing no more than 1 day before each concrete placement and no more than 1 day after each concrete placement. Correct all direct contacts detected between sections of pipe to be buried and concrete reinforcing components by trimming or repositioning the reinforcement components. If pipe to reinforcement contacts are detected after concrete is in place, remove the concrete as necessary to eliminate all points of contact. This testing shall be performed by the Contractor's Corrosion Engineer and witnessed by the Engineer.

A failure for a new pipeline to pass this electrical isolation test may require concrete and reinforcing steel to be demolished at no cost to the City until the new pipeline passes this test.

B. Perform all electrical resistance measurements for this test using a 97-Hertz square wave null balancing ohmmeter such as the Model 400 Nilsson Soil Resistance Meter and the four-wire resistance technique. A standard handheld digital multi-test meter's ohmmeter circuit (e.g. Fluke 87) is not suitable for properly making these resistance measurements. Perform this test by connecting the meter's P1 and C1 terminals to the pipe, using two wires, and then connecting the meter's P2 and C2 terminals to the rebar, using two additional wires. Use vise grips or temporary exothermic welds to make the wire connections to the pipe and rebar.

C. Rebar Ground Cable Connections at Pipe Encasements and Vault Penetrations: Select two exposed pieces of rebar separated by at least 2 feet that are wire tied to a minimum of 6 other pieces of rebar for the electrical ground reference test points. Using temporary connections such as vice grips or other compression clamps measure the electrical resistance between the two different pieces of rebar to ensure that the rebar test points are electrically continuous with the bulk of the rebar in the concrete structure. If either piece of rebar is not securely wire tied to all the other rebar in the encasement or vault, then the electrical resistance measurement will yield erroneous or misleading data. A maximum resistance of 0.10 Ohm between the two rebar test points is required before continuing the electrical isolation test. Connect two un-spliced lengths of minimum size #2 AWG bare copper stranded grounding cable to the rebar. Make the ground cable connections to the two different pieces of rebar. Each ground cable connection to the rebar shall be made with a separate exothermic weld or a separate mechanical ground clamp. Direct Resistance Isolation Test: Testing shall first be performed using the Direct Resistance Test. Move one pair of the resistance test leads to the pipe and measure the pipe to rebar resistance. If the resistance is 10 Ohms or more, the pipe is sufficiently electrically isolated from the rebar. If the test reading is less than 10 Ohms, proceed with the Steel Polarization Isolation Test.

D. Steel Polarization Isolation Test:

1. Step 1: Measure the baseline CP potentials of the buried pipeline and the rebar using a stationary location for a copper sulfate reference electrode. Place the reference electrode in the soil at an offset distance from the pipeline equal to approximately the length or width (whichever is greater) of the concrete structure under construction. If the difference between the readings is 500 millivolts or more, that indicates sufficient electrical isolation. This test must be done with all nearby sources of cathodic protection turned off or disconnected, and with all welding equipment turned off. If the difference is less than 500 millivolts, record the baseline CP Potentials and proceed to the next step.

2. Step 2: Set up a temporary DC power source such as an automotive battery, a rheostat, a calibrated shunt, and two minimum #6 AWG test cables. Set up the DC power source with the positive cable connected to the rebar and the negative cable connected to the pipe. Initially adjust the rheostat for the largest resistance/smallest current and measure the current flow. Adjust the electrical

power to a minimum current of 1 DC Amp, maximum of 10 DC Amps. Allow the DC current to flow for a minimum of 5 minutes then shut off the test current.

3. Step 3: Re-measure CP Potentials of the pipe and rebar using the same reference electrode in the same location with the test current off. These are called polarized CP potentials.

4. Step 4: Compare the polarized CP Potentials with the previously measured baseline CP Potentials. If the pipe is electrically isolated from the rebar, the test current will polarize the buried pipeline's steel cathodically (i.e. a more negative CP Potential) and shift the rebar anodically (i.e. a more positive CP Potential). If the difference between the polarized potentials of the pipeline and rebar is less than 300 millivolts there are one or more metallic contacts between the buried pipeline and the rebar.

E. If a Contractor wishes to use an alternate test procedure, prepare a written test procedure specifying the methods and equipment that will be used. Submit it to the Engineer for approval a minimum of 30 days before the first concrete placement. In no case shall an electrical resistance measurement made with a volt-ohm multi-meter be accepted as an accurate isolation test procedure. In the event of a question regarding the electrical isolation of the pipeline, the Engineer shall make the final determination.

F. Electrical isolation tests shall be conducted for each pipeline encasement, each pipe to vault penetration, and any other reinforced concrete and pipeline structure one day before placing concrete, and the day after the concrete is placed. The Engineer will witness the electrical isolation test conducted before the concrete is placed.

G. After the pipeline passes the rebar isolation test, direct bury the two bare copper ground cables connected to the rebar to a flush-to-grade concrete ground box near the pipe-vault penetration. Provide a cover for the test box marked "GROUND". Provide a minimum of two (2) feet of extra ground cable inside the rebar ground test box. If the rebar test wires are no long enough to reach the permanent test box, splice additional wire to them using two brass split bolts for each splice. No coating is required for the connections.

4.09 COMPLIANCE WITH SPECIFICATIONS.

A. Deficiencies or omissions in materials or workmanship found by these tests shall be rectified at the CONTRACTOR'S expense. Deficiencies shall include but are not limited to: broken leads, improper or unclean trenches, lack of 18-inch or slack wire in test boxes; improperly mounted test boxes; improper anode installations (including soaking), and other deficiencies associated with the workmanship, installation, and non-functioning equipment.

4.10 PAYMENT

A. Payment for all cathodic protection work shown on the drawings and specified herein shall be included in the lump sum bid item in the bid proposal form and shall include all incidental related work, such as but not limited to, coordination with City's corrosion

control specialist, demolition, trenching, backfill, compaction, surface restoration, traffic control, special inspections and testing necessary to make a complete and a functional system.

END OF SECTION

SECTION 13300 – INSTRUMENTATION AND CONTROL

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

A. The CONTRACTOR shall provide all Instrumentation and Control systems (I&C) complete and operable, in accordance with the Contract Documents. The requirements of this Section apply to all components of the I&C unless indicated otherwise.

B. The CONTRACTOR shall provide PLC Programming for the project. Programming of the Central HMI system will be done by the OWNER under a separate contract.

C. Responsibilities

1. The CONTRACTOR, through the use of a qualified Instrumentation Subcontractor or vendor and qualified electrical and mechanical installers, shall be responsible to the OWNER for the implementation of the I&C and the integration of the I&C with other required instrumentation and control devices. Only those suppliers who can demonstrate that they possess the prerequisite capabilities and experience will be considered. Any supplier wishing to qualify must apply in writing to the ENGINEER a minimum of 21 days prior to the bid opening date. Each applicant will be thoroughly examined, investigated, and then judged as to capability to execute the Scope of Work required on this project within the time frame allotted. Each applicant will be notified as to his approval or disapproval at least 7 days prior to the scheduled bid opening. Each applicant will be evaluated for the following minimum criteria.

a. Demonstrate the company's ability to successfully complete projects of similar size and nature. Provide references (including contact name and telephone number) for at least three projects where the following tasks were performed by personnel directly employed by your firm as a Instrumentation Subcontractor; system engineering and documentation including panel assembly, schematics, and wiring diagrams; software configuration and documentation; field testing, calibration, and start-up; and operating instructions and maintenance training.

b. Name the individual persons who will be responsible for office engineering and project management; software configuration; field testing, calibration and start-up; and operator instruction and maintenance training. References called for in the previous item shall include recent project of these individual persons.

c. Document that the company is actively in the business of furnishing integrated instrumentation, telemetry, control and electrical equipment for the water and waste water industries.

d. Have a qualified service facility with permanent employees located within 100 miles of the job site. Facility to include all tools, spare parts, and test equipment to repair, calibrate, test and start-up the equipment to be provided on this contract.

e. For this project the prequalified system suppliers are as follows:

(1) INTEGRATED CONTROLS, Orange (714) 516- 9531

(2) SYNTECH AUTOMATION, San Diego (858) 712- 3460

(3) FREEDOM AUTOMATION, Oceanside (760) 231- 6192

(4) TESCO CONTROLS, INC., Cerritos (310) 614-0841

2. Due to the complexities associated with the interfacing of numerous control system devices, the Instrumentation Subcontractor or vendor shall be responsible to the CONTRACTOR for the integration of the I&C with existing devices and devices provided under other Sections and provide a completely- integrated control system free of signal incompatibilities.

3. As a minimum, the Instrumentation Subcontractor or vendor shall perform the following work:

a. Implementation of the I&C:

(1) Prepare complete and accurate shop drawings

(2) Design, develop, and electronically verify complete and accurate control panel design and functionality according to specifications.

(3) Conduct operations and maintenance training for owners personnel on maintenance calibration and repair of all instrumentation provided under this contract.

(4) Procure hardware and provide a complete and accurate bill of materials.

(5) Program the PLC

(6) Fabricate panels

(7) Perform factory tests on panels

(8) Perform bench calibration and verify calibration after installation

(9) Oversee and guarantee installation for accuracy and totality to design and functionality.

(10) Oversee, complete set of documents. Label all wires, verify and guarantee complete loop testing results.

(11) Oversee, document, and certify system commissioning

(12) Perform comprehensive testing that guarantee accurate and complete system functionality, as well as testing component level accuracy to within manufactures specifications.

(13) Provide complete and accurate operations and maintenance manuals to include drawings, BOM, specifications, procedures, calibrations, certificates.

(14) Conduct operations and maintenance training for owners personnel on maintenance calibration and repair of all instrumentation provided under this contract.

(15) Provide drawings that are complete, correct and of sufficient quantity to have copies located at every maintenance location.

(16) Prepare calibration sheets

(17) Certify the installation of the I&C

(18) Perform complete loop check test on all analog/digital signals. Tests continuity and label all wires on panel.

b. Integration of the I&C with instrumentation and control devices being provided under other Sections:

(1) Develop all requisite loop drawings and record loop drawings associated with equipment provided under other Divisions and OWNER-furnished and existing equipment.

(2) Resolve signal, power, ground and/or functional incompatibilities between I&C and all interfacing devices. Document and guarantee results.

2. Instrumentation Subcontractor or vendor responsibilities in addition to the items identified above shall be at the discretion of the CONTRACTOR. Additional requirements in this Section and Division 13 that are stated to be the CONTRACTOR's responsibility may be performed by the Instrumentation Subcontractor or vendor.

D. Certification of Intent:

1. Fifteen days after Notice of Apparent Low Bidder, the CONTRACTOR shall submit a certification from the selected Instrumentation Subcontractor or vendor. The certification shall be typed on letterhead

paper of the Instrumentation Subcontractor or vendor firm. The certification shall be signed by an authorized representative of the Instrumentation Subcontractor or vendor. The certification shall include the following statements:

a. (Company name) "hereby certifies intent to assume and execute full responsibility to the CONTRACTOR to perform all tasks defined under Subsection 13300-1.1C.3 in full compliance with the requirements of the Contract Documents."

b. “It is certified that the quotation to the CONTRACTOR includes full and complete compliance with the requirements of the Contract Documents without exception."

E. Documentation of Instrumentation Subcontractor Qualifications:

1. List of at least two instrumentation and control system projects successfully completed, of size and scope similar to that described herein, in which the applicant performed system engineering, system fabrication and installation, documentation (including schematic, wiring and panel assembly drawings), field testing, calibration and start-up, operator instruction and maintenance training. Each of the references cited must be accompanied by a written confirmation of the accuracy of the data by a managerial member of the control system operational staff.

2. In addition, list the following information for each project above:

a. Name of plant, OWNER, contact name, and telephone number. All phone numbers and contacts shall be verified by the applicant before submission.

b. Name of manufacturer(s) for the majority of instrumentation provided.

c. Type of equipment furnished (i.e., transmitters, recorders, indicators, etc.)

d. Manufacturer and model number of DCS, SCADA, or PLC to which the analog system interfaced.

e. Date of completion or acceptance.

3. Furnish the name of the individual person who will be responsible for office engineering and management of this project, and the individual who will be responsible for field testing, calibration, start-up, and operator training for this project. Include references of recent projects of these individual persons.

4. Submit specific documentation which verifies that Instrumentation Subcontractor employs the minimum of individuals who have been formally trained in the application of the:

a. Indicated operating systems.

b. Indicated software packages.

c. Indicated graphical user interface software packages.

5. Document that the applicant's company has been actively involved in the instrumentation systems business (under the same corporate name).

1.2 RELATED SECTIONS

A. The Work of the following Sections applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

1. Section 16010 Basic Electrical Materials and Methods

2. Division 13

1.3 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

A. The Work of this Section shall comply with the current editions of the following codes as adopted by the City of San Diego Municipal code:

1. National Electrical Code (NEC)

2. Uniform Building Code (UBC)

B. Except as otherwise indicated, the current editions of the following apply to the Work of this Section:

1.	ANSI/ISA S 5.1	Instrumentation Symbols and Identification
2.	ISA-TR20.00.01	Specification Forms for Process Measurement and Control Instruments

1.4 CONTRACTOR SUBMITTALS

A. General: Submittals shall be furnished in accordance with the following:

1. Coordinate the instrumentation Work so that the complete instrumentation and control system will be provided and will be supported by accurate shop drawings and record drawings.

2. Symbology and Nomenclature: In these Contract Documents, all systems, all meters, all instruments, and all other elements are represented schematically, and are designated by symbology as derived from Instrument Society of America Standard ANSI/ISA S5.1 - Instrumentation Symbols and Identification. The nomenclature and

numbers designated herein and on the Drawings shall be employed exclusively throughout shop drawings, and similar materials. No other symbols, designations, or nomenclature unique to the manufacturer's standard methods shall replace those prescribed above, used herein, or on the Drawings.

B. Instrument Submittal:

1. Provide a complete index that lists each device by tag number, type and manufacturer. Provide a data sheet for each different type of instrument with the list of tag names. Provide a technical brochure for each data sheet.

C. Shop Drawings:

1. General:

a. Shop drawings shall include the letter head or title block of the Instrumentation Subcontractor. The title block shall include, as a minimum, the Instrumentation Subcontractor's registered business name and address, project name, drawing name, revision level, and personnel responsible for the content of the drawing.

b. Organization of the shop drawing submittals shall be compatible with eventual submittals for later inclusion in the operations and maintenance information. Submittals that are improperly organized or incomplete for a given loop will be rejected.

c. Shop drawing information shall be bound in standard size, 3 ring, loose leaf, vinyl plastic, hard cover binders suitable for bookshelf storage. Binder ring size shall not exceed 3 inches.

d. Interfaces between instruments, motor starters, control valves, variable speed drives, flow meters, chemical feeders and other equipment related to the I&C shall be included in the shop drawing submittal.

2. Project-Wide Loop Drawing Submittal: Furnish a Project-wide Loop Drawing Submittal (PLDS) that completely defines and documents the contents of each monitoring, alarming, interlock, and control loop associated with equipment provided under the instrumentation sections, equipment provided under sections in other Divisions, existing, and OWNER-furnished equipment that is to be incorporated into the I&C. The PLDS shall be a singular complete bound package electronically drafted in INTERGRAPH MICROSTATION format, submitted within 120 days after contract award, and shall include the following:

a. A complete index in the front of each bound volume. The loop drawings shall be indexed by systems or process areas. All loops shall be tagged in a manner consistent with the Contract

Documents. Loop drawings shall be submitted for every analog and discrete monitoring and control loop.

b. Drawings showing definitive diagrams for every instrumentation loop system. These diagrams shall show and identify each component of each loop or system using legend and symbols from ANSI/ISA S5.4 - Instrument Loop Drawings, and as defined by the most recent revision in ISA. Each system or loop diagram shall be drawn on a separate drawing sheet. Loop drawings shall be developed for loops in equipment vendor supplied packages, equipment provided under the instrumentation sections, and OWNER furnished equipment. The loop drawings shall also show all software modules and linkages. In addition to the expanded ISA S5.4 requirements the loop diagrams shall also show the following details:

(1) Functional name of each loop.

(2) Reference name, drawing, and loop diagram numbers for any signal continuing off the loop diagram sheet.

(3) MCC panel, circuit, and breaker numbers for all power feeds to the loops and instrumentation.

(4) Designation, and if appropriate, terminal assignments associated with every manhole, pullbox, junction box, conduit, and panel through which the loop circuits pass.

(5) Vendor panel, instrument panel, conduit, junction boxes, equipment and PLC I/O terminations, termination identification wire numbers and colors, power circuits, and ground identifications.

c. Itemized instrument summary. The instrument summary shall list all of the key attributes of each instrument provided under this Contract. As a minimum, attributes shall include:

(1) Tag number

(2) Manufacturer

(3) Model number

(4) Service

(5) Area location

(6) Calibrated range

(7) Loop drawing number

(8) Associated LCP (Local Control Panel), PLC (Programmable Logic Controller), PCM (Process Control Module), or RCP (Remote Control Panel)

3. Test Procedure Submittals:

   a. Submit the proposed procedures to be followed during tests of the I&C and its components.

   b. Preliminary Submittal: Outlines of the specific proposed tests and examples of proposed forms and checklists.

   c. Detailed Submittal: After approval of the Preliminary Submittal, the CONTRACTOR shall submit the proposed detailed test procedures, forms, and checklists. This submittal shall include a statement of test objectives with the test procedures.

   d. Certify in writing that for each loop or system checked out, and all discrepancies have been corrected.

4. Calibration Sheets: Each instrument calibration sheet shall provide the following information and a space for sign-off on individual items and on the completed unit:

   a. Project name

   b. Loop number

   c. Tag number

   d. Manufacturer

   e. Model number

   f. Serial number

   g. Calibration range

   h. Calibration data: Input, output, and error at 10, 50 and 90% of span

   i. Switch setting, contact action, and deadband for discrete elements

   j. Space for comments

   k. Space for sign-off by Instrumentation Supplier and date

   l. Test equipment used and associated serial numbers

5. Training Submittals: The CONTRACTOR shall submit a training plan that includes:

a. Schedule of training courses including dates, durations, and locations of each class.

b. Resumes of the instructors who will actually implement the plan.

D. Operations and Maintenance Information:

1. General: Operations and maintenance information shall be based upon the approved shop drawing submittals as modified for conditions encountered in the field during the Work.

2. Operations and maintenance information submitted shall be organized as follows for each process:

a. Section A - Loop Drawings

b. Section B - Instrument Summary

c. Section C - Instrument Data Sheets

d. Section D - Sizing Calculations

e. Section E - Instrument Installation Details

f. Section F - Test Results

3. CONTRACTOR-certified results from Calibration Loop Testing, Precommissioning, and Performance Testing shall be included in Section H of the operations and maintenance information.

E. Record Drawings:

1. Keep current a set of complete loop and schematic diagrams which shall include all field and panel wiring, piping and tubing runs, routing, mounting details, point-to-point diagrams with cable, wire, tube and termination numbers. These drawings shall include all instruments and instrument elements. One set of record drawings electronically formatted in INTERGRAPH MICROSTATION format and 2 hard copies shall be submitted after completion of all Precommissioning tasks but before Performance Testing. All such drawings shall be submitted for review before acceptance of the completed Work.

1.5 FACTORY TESTING

A. Arrange for the Manufacturers of the equipment and fabricators of panels and cabinets supplied under this Section to allow the ENGINEER to inspect and witness the testing of the equipment at the site of fabrication. Equipment shall include the cabinets, special control systems, flow measuring devices, and other pertinent systems and devices. A minimum of 10 working days notification shall

be provided to the ENGINEER before testing. No shipments shall be made without the ENGINEER's approval.

B. The OWNER and ENGINEER expenses, including travel and subsistence for three (3) people for up to two (2) days at the place of manufacture, excluding salaries, shall be borne by the CONTRACTOR and included in the proposed price.

1.6 PERIOD FOR CORRECTION OF DEFECTS

A. Correct all defects in the I&C upon notification from the OWNER within one year from the date of Substantial Completion. Corrections shall be completed within 5 days after notification.

1.7 SYSTEM DESCRIPTION

A. All instruments shall return automatically and immediately to accurate measurement upon restoration of power after a power failure, except where specifically noted.

B. Provide and install two-wire transmitters in local panels or enclosures with receiver/indicator/re-transmitter as required.

C. Provide instrument transmitters which produce isolated 4-20 mAdc analog signals. Follow ISA-S50.1 - Compatibility of Analog Signals for Electronic Industrial Process Instruments.

D. For instruments which produce a pulse signal, use dc pulse frequency signals whose repetition rate is directly proportional to the process variable over a 10:1 range. Use 24 Vdc power source.

E. Provide instruments with conformably coated printed circuit boards to prevent damage by dust, moisture, fungus, and airborne contaminants.

F. Provide instruments complete with mounting hardware, floor stands, wall brackets, or instrument racks.

G. Use linear, direct reading indicators unless otherwise specified.

1.8 QUALITY ASSURANCE

A. Provide instrumentation of rugged construction designed for the site conditions. Provide only new, standard, first-grade materials.

B. Provide material and equipment in accordance with applicable codes and standards, except as modified by the specifications.

C. Use single source manufacturer for each instrument type. Use the same manufacturer for different instrument types whenever possible.

D. Coordinate instrumentation to assure proper interface and system integration.

Provide signal processing equipment, to include, but not be limited to, process sensing and measurement, transducers, signal converters, conditioners, transmitters, receivers, and power supplies. Coordinate the various subcontractors, equipment suppliers, and manufacturers.

1.9 WARRANTY

A. Warranty the instrumentation, materials, workmanship, and installation to be free from defects for a period of one year from the date of final acceptance of the equipment.

B. Furnish and install replacement parts during the warranty period for any defective component at no additional cost. Replace spare parts consumed during the warranty period with new equipment at no additional cost, immediately after use, to restore the spare parts inventory.

PART 1 - PRODUCTS

2.1 GENERAL

A. Code and Regulatory Compliance: All I&C Work shall conform to or exceed the applicable requirements of the National Electrical Code. Conflicts between the requirements of the Contract Documents and any codes or referenced standards or specifications shall be resolved with the more stringent requirement having precedence.

B. Current Technology: All meters, instruments, and other components shall be the most recent field-proven models marketed by their manufacturers at the time of submittal of the shop drawings unless otherwise required to match existing equipment.

C. Hardware Commonality: All instruments that use a common measurement principle (for example, d/p cells, pressure transmitters, level transmitters that monitor hydrostatic head) shall be furnished by a single Manufacturer. All panel mounted instruments shall have matching style and general appearance. Instruments performing similar functions shall be of the same type, model, or class, and shall be from a single Manufacturer.

D. Loop Accuracy: The accuracy of each instrumentation system or loop shall be determined as a probable maximum error; this shall be the square-root of the sum of the squares of certified "accuracies" of the designated components in each system, expressed as a percentage of the actual span or value of the measured variable. Each individual instrument shall have a minimum accuracy of $\pm$0.5% of full scale and a minimum repeatability of $\pm$0.25% of full scale unless otherwise indicated. Instruments that do not conform to or improve upon these criteria are not acceptable.

E. Instrument and Loop Power: Power requirements and input/output connections for all components shall be verified. Power for transmitted signals shall, in general, originate in and be supplied by the control panel devices. The use of "2-

wire" transmitters is preferred and use of "4-wire" transmitters shall be minimized. Individual loop or redundant power supplies shall be provided as required by the Manufacturer's instrument load characteristics to ensure sufficient power to each loop component. All power supplies shall be mounted within control panels or in the field at the point of application.

F. Loop Isolators and Convertors: Signal isolators shall be provided as required to ensure adjacent component impedance match where feedback paths may be generated, or to maintain loop integrity during the removal of a loop component. Dropping precision wire-wound resistors shall be installed at all field side terminations in the control panels to ensure loop integrity. Signal conditioners and converters shall be provided where required to resolve any signal level incompatibilities or provide required functions.

G. Environmental Suitability: All indoor and outdoor control panels and instrument enclosures shall be suitable for operation in the ambient conditions associated with the locations designated in the Contract Documents. Heating, cooling, and dehumidifying devices shall be provided in order to maintain all instrumentation devices 20% within the minimums and maximums of their rated environmental operating ranges. Provide all power wiring for these devices. Enclosures suitable for the environment shall be furnished. All instrumentation in hazardous areas shall be suitable for use in the particular hazardous or classified location in which it is to be installed.

H. Signal Levels: Analog measurements and control signals shall be as indicated herein, and unless otherwise indicated, shall vary in direct linear proportion to the measured variable. Electrical signals outside control panels shall be 4 to 20 mA DC except as indicated. Signals within enclosures may be 1 to 5 VDC. All electric signals shall be electrically or optically isolated from other signals. All pneumatic signals shall be 3 to 15 psig with 3 psig equal to 0% and 15 psig equal to 100%.

I. Control Panel Power Supplies: All power supplies shall have an excess rated capacity of 40%. The failure of a power supply shall be repeated to the SCADA System.

2.2 OPERATING CONDITIONS

A. The I&C shall be designed and constructed for satisfactory operation and long, low maintenance service under the following conditions:

1. Environment - Coastal

2. Temperature Range - 32 through 104 degrees F

3. Thermal Shock - 1 degree F per minute, maximum

4. Relative Humidity - 20 through 90%, non-condensing

2.3 SPARE PARTS AND SPECIAL TOOLS

A. Spare Parts: Furnish the spare parts selected by the ENGINEER from the priced list of spare parts in the Instrument Submittal and Control Panel Engineering

Submittal in conformance with Section 13370 - Control Panels.

B. Special Tools: Furnish a priced list of all special tools required to calibrate and maintain all of the instrumentation provided under the Contract Documents. After approval, furnish all listed tools.

C. Timing of Submittals: All special tools and spare parts shall be submitted before startup starts and shall be suitably wrapped and identified.

2.4 POSITION SWITCH

A. Each intrusion alarm limit switch shall transmit a signal when the monitored door or hatch is not in the closed position.

B. The intrusion alarm position switch shall be the inductive proximity sensor type, designed to operate by generating a magnetic field and detecting the eddy current losses.

C. The proximity sensor shall have a 30mm stainless steel barrel diameter with 0.59 inch nominal sensing distance (unshielded).

D. NEMA 4X enclosure rating.

E. Normally open output configuration.

F. 10-30 VDC operating voltage, load current of 25 mA or less.

G. Two wire operation with integral cable. Full PLC interface compatibility.

H. Repeatability: 10 percent or better.

I. Hysteresis: 15 percent or better.

J. Protection for false pulse and transient noise.

K. Integral LED output energized indicator.

L. Correction factor as appropriate for target material.

M. Stainless steel angle mounting bracket with spring-return for collision protection.

N. Acceptable products: Allen-Bradley Bulletin 871TM series; or approved equal.

Tag No.	Service	Trip Set Point	NEMA Rating
ZS-A	PRS Vault	N/A	4X
ZS-B	PRS Vault	N/A	4X

2.5 LIMIT SWITCH

A. Each intrusion alarm limit switch shall transmit a signal when the monitored door

or hatch is not in the closed position.

B. Each limit switch shall be SPDT, rated for 5 amps. Conduit entrance and terminals shall be epoxy sealed. Limit switch mounting and actuator shall bedetermined by the Contractor to provide a reliable, positive, and accurate indication of entrance. The switch shall be normally open (actuated closed when the door or hatch is closed). Switch shall be mounted for minimum obstruction of access. Limit switches shall be Type “C” by Square D Class 9007, Allen Bradley 802T, or equal.

Tag No.	Service	Trip Set Point	NEMA Rating
N/A	RCP Panel	N/A	4
N/A	PIT Enclosure	N/A	4

2.6 COPPER TUBING AND CONNECTORS

A. Copper tubing shall be ASTM B88 or 75, type K or L, Annealed temper (soft copper).

B. Connectors shall be compression fitted and made of cast copper alloy, brass, or stainless steel. Cast copper alloy fittings shall comply with ASME/ANSI B16.26 specifications.

C. Thread compounds and lubricants shall be used according to the manufacturer’s recommendations. Teflon tape shall not be used.

D. Copper tubing and connectors shall be Swagelock, Hoke or equal.

E. Copper tubing supports shall be two hole mounted, made of 304 stainless steel, and have SBR rubber inserts. Use Mc Master-Carr catalog number 8981T25 or equal. Single hole rubber cushioned loop straps are not acceptable.

PART 3 - EXECUTION

3.1 PRODUCT HANDLING

A. Shipping Precautions: After completion of shop assembly, factory test, and approval, all equipment, cabinets, panels, and consoles shall be packed in protective crates and enclosed in heavy duty polyethylene envelopes or secured sheeting to provide complete protection from damage, dust, and moisture. Dehumidifiers shall be placed inside the polyethylene coverings. The equipment shall then be skid-mounted for final transport. Lifting rings shall be provided for moving without removing protective covering. Boxed weight shall be shown on shipping tags together with instructions for unloading, transporting, storing, and handling at the job site.

B. Special Instructions: Special instructions for proper field handling, storage, and installation required by the Manufacturer shall be securely attached to each piece of equipment before packaging and shipment.

C. Tagging: Each component shall be tagged to identify its location, instrument tag number, and function in the system. A permanent stainless steel or other non-corrosive material tag firmly attached and permanently and indelibly marked with the instrument tag number, as given in the tabulation, shall be provided on each piece of equipment in the I&C. Identification shall be prominently displayed on the outside of the package.

D. Storage: Equipment shall not be stored outdoors. Equipment shall be stored in dry permanent shelters, including in-line equipment, and shall be adequately protected against mechanical injury. If any apparatus has been damaged, such damage shall be repaired by the CONTRACTOR at no additional cost to the OWNER. If any apparatus has been subject to possible injury by water, it shall be thoroughly dried out and put through tests as directed by the ENGINEER. Such tests shall be at no additional cost to the OWNER, and if the equipment fails the tests, it shall be replaced at no additional cost to the OWNER.

3.2 INSTALLATION

A. General:

1. All instrumentation, including instrumentation furnished under other Divisions, shall be installed under Division 13 and the manufacturers' instructions.

2. Equipment Locations: The monitoring and control system configurations indicated are diagrammatic. The locations of equipment are approximate. The exact locations and routing of wiring and cables shall be governed by structural conditions and physical interferences and by the location of electrical terminations on equipment. All equipment shall be located and installed so that it will be readily accessible for operation and maintenance. Where job conditions require reasonable changes in approximated locations and arrangements, or when the OWNER exercises the right to require changes in location of equipment that do not impact material quantities or cause material rework, make such changes without additional cost to the OWNER.

B. Conduit, Cables, and Field Wiring

1. All conduits shall be provided under Division 16.

2. All 4-20 mA signal circuits, process equipment control wiring, signal wiring to field instruments, SCADA and PLC input and output wiring and other field wiring and cables shall be provided under Division 16.

3. All SCADA and PLC equipment cables, data highway communication networks shall be provided under Division 13.

4. All terminations and wire identification at I&C equipment furnished under this or any other Division shall be provided under Division 13.

C. Instrumentation Tie-Downs: All instruments, control panels, and equipment shall be anchored by methods that comply with seismic requirements that apply to the site.

D. Ancillary Devices: The Contract Documents show all necessary conduit and

instruments required to make a complete instrumentation system. The CONTRACTOR shall be responsible for providing any additional or different type connections as required by the instruments and specific installation requirements at no additional cost to the OWNER. All such additions and all such changes, including the proposed method of installation, shall be submitted to the ENGINEER for approval before commencing the Work. Such changes shall not be a basis of claims for extra work or delay.

E. Installation Criteria and Validation: All field-mounted components and assemblies shall be installed and connected according to the requirements below:

1. Installation personnel have been instructed on installation requirements of the Contract Documents.

2. Technical assistance is available to installation personnel at least by telephone.

3. Installation personnel have at least one copy of the approved shop drawings and data.

4. All power and signal wires shall be terminated with crimped type lugs.

5. All connectors shall be, as a minimum, water tight.

6. All wires shall be mounted clearly with an identification tag that is of a permanent and reusable nature.

7. All wire and cable shall be arranged in a neat manner and securely supported in cable groups and connected from terminal to terminal without splices unless specifically approved by the ENGINEER. All wiring shall be protected from sharp edges and corners.

8. All mounting stands and bracket materials and workmanship shall comply with requirements of the Contract Documents.

9. Verify the correctness of each installation, including polarity of electric power and signal connections, and making sure all process connections are free of leaks. Certify in writing that for each loop or system checked out, all discrepancies have been corrected.

10. The OWNER will not be responsible for any additional cost of rework attributable to actions of the CONTRACTOR or the Instrumentation Subcontractor.

3.3 LOOP TESTING

A. General: Individual instrument loop diagrams per ISA Standard S5.4 - Instrument Loop Diagrams, expanded format, shall be submitted to the ENGINEER for review before the loop tests. The CONTRACTOR shall notify the ENGINEER of scheduled tests a minimum of 30 days before the estimated

completion date of installation and wiring of the I&C. After the ENGINEER's review of the submitted loop diagrams for correctness and compliance with the specifications, loop testing shall proceed. The loop check shall be witnessed by the ENGINEER.

B. Instrument and Instrument Component Validation: Each instrument shall be field tested, inspected, and adjusted to its indicated performance requirement in accordance its Manufacturer's specifications and instructions. Any instrument that fails to meet any Contract requirement, or, in the absence of a Contract requirement, any published manufacturer performance specification for functional and operational parameters, shall be repaired or replaced, at the discretion of the ENGINEER at no additional cost to the OWNER.

C. Loop Validation: Controllers and electronic function modules shall be field tested and exercised to demonstrate correct operation. All control loops shall be checked under simulated operating conditions by impressing input signals at the primary control elements and observing appropriate responses of the respective control and monitoring elements, final control elements, and the graphic displays associated with the SCADA and PLC. Actual signals shall be used wherever available. Following any necessary corrections, the loops shall be retested. Specified accuracy tolerances for each analog network are defined as the root-mean-square-summation of individual component accuracy requirements. Individual component accuracy requirements shall be as indicated by Contract requirements or by published manufacturer accuracy specifications, whenever Contract accuracy requirements are not indicated. Each analog network shall be tested by applying simulated analog or discrete inputs to the first element of an analog network. For networks that incorporate analog elements, simulated sensor inputs corresponding to 0, 25, 50, 75 and 100% of span shall be applied, and the resulting element outputs monitored to verify compliance to calculated root-mean-square-summation accuracy tolerance requirements. Continuously variable analog inputs shall be applied to verify the proper operation and setting of discrete devices. Provisional settings shall be made on controllers and alarms during analog loop tests. All analog loop test data shall be recorded on tests that include calculated root-mean-square-summation system accuracy tolerance requirements for each output.

D. Loop Validation Sheets: Prepare loop confirmation sheets for each loop covering each active instrumentation and control device except simple hand switches and lights. Loop confirmation sheets shall form the basis for operational tests and documentation. Each loop confirmation sheet shall cite the following information and shall provide spaces for sign-off on individual items and on the complete loop by the Instrumentation Supplier:

1. Project name

2. Loop number

3. Tag number, description, manufacturer and model number for each element

4. Installation bulletin number

5. Specification sheet number

6. Loop description number

7. Adjustment check

8. Space for comments

9. Space for loop sign-off by Instrumentation Supplier and date

10. Space for ENGINEER witness signature and date

E. Loop Certifications: When installation tests have been successfully completed for all individual instruments and all separate analog control networks, a certified copy of all test forms signed by the ENGINEER or the ENGINEER representative as a witness, with test data entered, shall be submitted to the OWNER together with a clear and unequivocal statement that all instrumentation has been successfully calibrated, inspected, and tested.

3.4 PRECOMMISSIONING

A. General: Precommissioning shall start after acceptance of all wire test, calibration tests and loop tests, and all inspections have demonstrated that the instrumentation and control system complies with all Contract requirements. Precommissioning shall demonstrate proper operation of all systems with process equipment operating over full operating ranges under conditions as closely resembling actual operating conditions as possible.

B. Precommissioning Procedures and Documentation: All precommissioning and test activities shall follow detailed test procedures and check lists accepted by the Resident Engineer. All test data shall be acquired using equipment as required and shall be recorded on test forms accepted by the ENGINEER, that include calculated tolerance limits for each step. Completion of all system precommissioning and test activities shall be documented by a certified report, including all test forms with test data entered, delivered to the ENGINEER with a clear and unequivocal statement that all system precommissioning and test requirements have been satisfied.

C. Operational Validation: Where feasible, system precommissioning activities shall include the use of water to establish service conditions that simulate, to the greatest extent possible, normal final control element operating conditions in terms of applied process loads, operating ranges, and environmental conditions. Final control elements, control panels, and ancillary equipment shall be tested under start-up and steady-state operating conditions to verify that proper and stable control is achieved using local field mounted control circuits. All hardwired and software control circuit interlocks and alarms shall be operational. The control of final control elements and ancillary equipment shall be tested using both manual and automatic (where provided) control circuits. The stable steady-state operation of final control elements running under the control of field mounted automatic analog controllers or software based controllers shall be

assured by adjusting the controllers as required to eliminate oscillatory final control element operation. The transient stability of final control elements operating under the control of field mounted, and software based automatic analog controllers shall be verified by applying control signal disturbances, monitoring the amplitude and decay rate of control parameter oscillations (if any) and making necessary controller adjustments as required to eliminate excessive oscillatory amplitudes and decay rates.

D. Loop Tuning: All electronic control stations incorporating proportional, integral or differential control circuits shall be optimally tuned, experimentally, by applying control signal disturbances and adjusting the gain, reset, or rate settings as required to achieve a proper response. Measured final control element variable position/speed set point settings shall be compared to measured final control element position/speed values at 0, 25, 50, 75 and 100% of span and the results checked against indicated accuracy tolerances. Precommissioning Validation Sheets: Precommissioning shall be documented on one of two types of test forms as follows:

1. For functions that can be demonstrated on a loop-by-loop basis, the form shall include:

    a. Project name

    b. Loop number

    c. Loop description

    d. Tag number, description, manufacturer and data sheet number for each component.

    e. Space for sign-off and date by both the Instrumentation Subcontractor and ENGINEER.

2. For functions that cannot be demonstrated on a loop-by-loop basis, the test form shall be a listing of the specific tests to be conducted. With each test description the following information shall be included:

    a. Specification page and paragraph of function demonstrated

    b. Description of function

    c. Space for sign-off and date by both the Instrumentation Subcontractor and ENGINEER.

E. Precommissioning Certification: Submit an instrumentation and control system precommissioning completion report that shall state that all Contract requirements have been met and shall include a listing of all instrumentation and control system maintenance and repair activities conducted during the precommissioning testing. Acceptance of the instrumentation and control system precommissioning testing must be provided in writing by the ENGINEER before

the performance testing may begin.

3.5 ON SITE SUPERVISION

A. Furnish the services of an on-site service engineer to supervise and coordinate installation, adjustment, testing, and start-up of the I&C. The ENGINEER will be present during the total period required to affect a complete operating system. A qualified team of the Instrumentation Subcontractor personnel shall be on site for 8 hours to check all equipment, perform the tests indicated in this Section, and furnish startup services.

3.6 PERFORMANCE TEST

A. The entire I&C shall operate for 7 days without failure.Furnish all necessary support staff as required to operate the system and to satisfy the repair or replacement requirements.

B. If any component fails during the performance test, it shall be repaired or replaced and the I&C shall be restarted on another 7-day period.

3.7 TRAINING

A. General: Train the OWNER's personnel on the maintenance, calibration and repair of all instruments provided under this Contract.

B. Instructions: The training shall be performed by qualified representatives of the equipment manufacturers and shall be specific to each piece of equipment.

C. Duration: Each training class shall be a minimum of 8 hours in duration and shall cover, as a minimum, operational theory, maintenance, troubleshooting/repair, and calibration of instruments.

D. Schedule: Training shall be performed during the precommissioning phase of the project. The training sessions shall be scheduled a minimum of 3 weeks in advance of when the courses are to be initiated. The ENGINEER will review the course outline for suitability and provide comments that shall be incorporated.

E. Agenda: The training shall include operation and maintenance procedures, troubleshooting with necessary test equipment, and changing set points, and calibration for that specific piece of equipment.

F. Documentation: Within 10 days after the completion of each session the CONTRACTOR shall submit the following:

1. List of all OWNER personnel who attended the session.

2. Evaluation of OWNER personnel via written testing or equivalent evaluation.

3. Copy of the training materials used including all notes, diagrams, and comments.

3.8 ACCEPTANCE

A. For the purpose of this Section, the following conditions shall be fulfilled before the Work is considered substantially complete:

1. All submittals have been completed and approved.

2. The I&C has been calibrated, loop tested and precommissioned.

3. The OWNER training has been performed.

4. All required spare parts and expendable supplies and test equipment have been delivered to the ENGINEER.

5. The performance test has been successfully completed.

6. All punch-list items have been corrected.

7. All record drawings in both hard copy and electronic format have been submitted.

8. Revisions to the operations and maintenance manuals information that may have resulted from the field tests have been made and reviewed.

9. All debris associated with installation of instrumentation has been removed.

10. All probes, elements, sample lines, transmitters, tubing, and enclosures have been cleaned and are in like-new condition.

**** END OF SECTION ****

SECTION 13370 – CONTROL PANELS

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

A. General: The CONTRACTOR shall provide control panels, complete and operable, in accordance with the Contract Documents.

B. The provisions of this Section apply to local control panels provided in equipment systems specified in other sections unless indicated otherwise in those sections.

1.2 RELATED SECTIONS

A. The Work of the following Sections applies to the Work of this Section. Other Sections, not referenced below, also apply to the extent required for proper performance of this Work:

1. Section 13300 Instrumentation and Control

2. Section 13374 Control Panel Instrumentation

1.3 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

A. Except as otherwise indicated, the current editions of the following commercial standards apply to the Work of this Section:

1.	ASTM A36	Specification for Carbon Structural Steel
2.	ASTM A283	Specification for Low and Intermediate Tensile Strength Carbon Steel Plates
3.	NEMA ICS-1-101	Industrial Control Systems
4.	SSPC-SP6	Specification for the Society for Protective Coating B Commercial Blast

B. Underwriters Laboratories (UL) Publication:

1.	508	Industrial Control Equipment

1.4 CONTRACTOR SUBMITTALS

A. Shop drawings shall be submitted in accordance with Section 13300 - Instrumentation and Control.

B. Control Panel Engineering Submittal: The CONTRACTOR shall submit a control panel engineering submittal (CPES) for each control panel and enclosure provided under Division 13. The CPES shall completely define and document the construction, finish, layout, power circuits, signal and safety grounding circuits, fuses, circuit breakers, signal

circuits, internally mounted instrumentation and SCADA system components, face plate mounted instrumentation components, internal panel arrangements, and external panel arrangements. All panel drawings shall be "B" size, and all data sheets and manufacturer specification sheets shall be "A" size. The submittal shall be in conformance with NEMA Standard ICS-1-1.01, shall be submitted as a singular complete bound volume or multi-volume package within 120 calendar days after Notice to Proceed and shall have the following content:

1. A complete index shall appear in the front of each bound volume. Panels shall be indexed by system or process area, and drawings and data associated with a panel shall be grouped together. All panel tagging and nameplate nomenclature shall be consistent with the requirements of the Contract Documents.

2. Scale construction drawings which define and quantify the type and gauge of steel to be used for panel fabrication, the ASTM A36 grade proposed for structural shapes and straps, panel door locks and hinge mechanisms, type of bolts and bolt locations for section joining and anchoring, details and proposed locations on the use of "Unistrut" members, stiffener materials and locations, electrical terminal box and outlet locations, electrical access locations, print pocket locations, writing board locations and lifting lug material and locations.

3. Scale physical arrangement drawings which define and quantify the physical groupings comprising control panel sections, auxiliary panels, subpanels, and racks. Cutout locations with nameplate identifications shall be indicated.

4. Front of panel layouts for all control panels.

5. Schematic/elementary diagrams depicting all control devices and circuits and their functions.

6. Wiring/connection diagrams locating and identifying electrical devices, terminals and interconnecting wiring. These diagrams shall show interconnecting wiring by lines, designate terminal assignments, and show the physical location of all electrical and control devices.

7. Interconnection diagrams locating and identifying all external connections between the control panel/control panel devices and associated equipment. These diagrams shall show interconnecting wiring by lines, designate terminal assignments, and show the physical location of all panel ingress and egress points.

8. Completed ISA-S20 data sheets for all instrumentation devices associated with each control panel, supplemented with manufacturer specification sheets which verify conformance to the requirements of the Contract Documents.

9. A bill of material which enumerates all devices associated with the control panel.

10. A priced listing of control panel spare parts in conformance with Section 13300 - Instrumentation and Control.

1.5 SPARE PARTS AND SPECIAL TOOLS

A. Control panel spare parts selected by the ENGINEER and special tools shall be provided in accordance with Section 13300 - Instrumentation and Control.

B. All spare parts and special tools shall be submitted before startup commences, suitably wrapped and identified.

1.6 CERTIFICATION

A. Each control panel shall bear the UL label. The UL label shall apply to the specific equipment supplied with the enclosure, and the installation and wiring of the equipment within and on the enclosure. If required for UL labeling, provide ground fault interrupters, isolation transformers, fuses, and any other necessary equipment, even though such equipment is not indicated on the Drawings. The fabricator shall be an approved UL listed manufacturer.

B. The shop that builds the controller must be a UL 508A listed panel shop/fabricator/builder (certified & authorized by UL). This shop will then install a UL sticker of approval on the assembled controller. Otherwise UL or a UL listed third party is needed to inspect, evaluate the work, issue an evaluation report and install the UL approval sticker.

PART 2 - PRODUCTS

2.1 GENERAL

A. Environmental Suitability: All outdoor control panels and instrument enclosures shall be suitable for operation in the ambient conditions associated with the locations designated in the Contract Documents. Heating, cooling, and dehumidifying devices shall be provided in order to maintain all instrumentation devices no less than 20% below the maximum rated environmental operating level, and at least 20% above the minimum rated environmental operating level. The CONTRACTOR shall provide all power wiring for these devices. Enclosures suitable for the environment shall be furnished.

B. The control panel controls shall be as shown on the drawings. Control conductors shall be provided in accordance with the indicated requirements.

C. Each source of foreign voltage shall be isolated by providing disconnecting or pull-apart terminal blocks or a disconnect operable from the control panel front. Each control panel shall be provided with identified terminal strips for the connection of all external conductors. Provide sufficient terminal blocks to connect 25% additional conductors for future use. Discrete outputs from the control panel shall be provided by electrically isolated contacts rated for 5 A at 120 VAC. Analog inputs and outputs shall be an isolated 4-20 mA, 2-wire signals with power supply.

D. Programmable Logic Controllers (PLCs) may be provided in lieu of relays if the programmable logic controllers match the PLCs provided under Section 13374 - Control Panel Instrumentation.

E. All control panel mounted devices shall be mounted a minimum of 3 feet above finished floor elevation.

F. Painting: The interior of the control panel, back-panel, and side-panel(s) shall have a white finish coat.

2.2 CONTROL PANELS

A. Remote Control Panel RCP:

1. Fabricate panels, install instruments, plumb and wire in the factory.

2. Furnish termination panels, if required. Include terminal blocks; interface hardware, wiring, and cabling necessary for a complete system.

3. Use panel fabrication techniques that allow for removal and maintenance of all equipment after installation.

4. Provide equipment-mounting racks of standard construction and dimensions. Provide front access doors only unless specified otherwise. Provide space for internal wiring and for the connection of external wiring.

5. Do not locate any equipment within bottom two inches of panel.

6. All equipment located within the panel shall be rigidly secured.

7. All outdoor panels shall be provided with breather/drain plugs.

8. Provide a hasp on all enclosure covers (doors) for Owner furnished locks. The Owner will supply padlocks. Enclosures shall be 316 stainless steel. Provide single door NEMA type 4X with back panels.

10. Provide structural reinforcements within enclosures to insure a plane surface, to limit vibration and to provide rigidity during shipment, installation and operation without distortion or damage to the panel or to any instrument.

11. Grind and sand exterior welds to a smooth finish free of burrs. Make surfaces free of ridges, nuts, bolt heads and similar protrusions.

12. Internally, supply the enclosures with a structural steel framework or bracing for equipment support and enclosure bracing. Where two or more enclosures are shown mounted immediately adjacent to one another, bolt them securely together with their front faces parallel.

13. Provide each enclosure with full gaskets on covers.

B. Electrical Requirements:

1. Conduit, wireways, switches, wire, and electrical fittings shall be provided for all 120 VAC or 24 VDC circuits to instruments and other electrical devices as required for a complete and operable installation.

2. Conduit, wireways, junction boxes, and fittings shall be provided for all signal wire, thermocouple, or resistance thermometer lead wire. Conduit or wireway runs shall include those required between temperature sensors and temperature transmitters and between the thermocouple wireway or junction box to instruments.

3. Each terminal connection shall have a plastic plate with a terminal and instrument tag number. All wiring shall be identified with stamped tubular wire and markers.

4. Panels shall be provided with two switched 500 lumen LED panel lights. Two lights shall be provided for every 4 feet of panel width and shall be mounted inside and in the top of the back-of-panel area.

5. The RCP shall be provided with a 15-A, 120-V, service outlet circuit within the back-of-panel area. The circuit shall be provided with 3-wire, 120-V, 15-A, duplex receptacles one for every 4 feet of panel width (one minimum per panel), spaced evenly along the back-of-panel area.

6. Wall mounted or pedestal mounted panels shall be so sized as to adequately dissipate heat generated by equipment mounted in or on the panel.

7. The RCP shall be NEMA 4X compliant and UL508A listed. The RCP shall be provided with NEMA 4X compliant exhaust fan/ventilation system and heating system with a adjustable on/off temperature setting to allow the temperature inside the enclosure to be kept within the specified equipment operating range.

8. A door switch shall control the LED panel light within the RCP.

9. Wiring methods and materials for all panels shall be in accordance with the NEC requirements for General Purpose (no open wiring) unless otherwise indicated.

10. Signal and Control Circuit Wiring:

    a. Wire type and sizes: Conductor shall be flexible stranded copper machine tool wire UL listed Type MTW, and shall be rated 600 V. Wires for instrument signal circuits and alarm input circuits shall be No. 14 AWG. All other wires, including shielded cables, shall be No. 16 AWG, minimum.

    b. Wire Marking: Each signal, control, alarm, and indicating circuit conductor connected to a given electrical point shall be designated by a single unique number which shall be shown on all shop drawings. These numbers shall be marked on all conductors at every terminal using white numbered wire markers which shall be plastic-coated cloth, Brady Type B-500 or equal or shall be permanently marked by heat-shrink plastic.

    c. Flexible conduit is not acceptable except when specifically approved by the ENGINEER in writing.

    d. Conduit fittings shall be Crouse-Hinds cast fittings or equal.

    e. Splicing of wires in conduits is discouraged. If permitted, splicing shall be

approved by the ENGINEER and splices shall be soldered or pressure type crimped.

f. For case grounding, panels shall be provided with a 1/4-inch by 1-inch copper ground bus complete with solderless connector for one No. 4 AWG bare stranded copper cable. The copper cable shall be connected to a system ground loop.

11. DIN Rail Mounted Terminal Blocks:

a. Provide factory assembled terminal blocks on a mounting channel and bolt the channel to the inside of the panel. Space terminal block strips no closer than 6 inches center to center.

b. Provide screw type 600 V terminals with pressure plate to accept wire size #12 AWG and smaller. Do not use miniature terminal blocks.

c. Provide a continuous marking strip with the terminals. Provide a separate terminal for terminating each shield wire.

d. Reserve one side of each terminal strip for field incoming conductors. Do not make common connections and jumpers required for internal wiring on the field side of the terminal. Terminate no more than two wires at any one terminal.

e. Provide a minimum of 25 percent spare terminals.

f. The terminal block shall terminate wires without additional preparation such as tinning of wire ends, special connectors, etc.

g. The insulation shall have wire entry funnels to facilitate insertion of wires.

h. The insulating housing shall prevent stray strands from shorting out adjacent terminal blocks.

i. The terminations shall be gastight to prevent corrosion due to corrosive atmosphere.

j. Terminal screws shall be captive in the metal body or via the insulation housing.

k. Once tightened terminal screws shall be useable with accessories such as center or insertion bridges; test sockets; separating plates, end covers, etc.

l. Provide fusible terminal blocks with fuses and blown fuse indicators for each signal loop.

m. Manufacturer: Phoenix Contact or equal.

12. DIN Rail Mounted Circuit Breakers:

a. Circuit breakers shall be 115 VAC, single pole as manufactured by Allen Bradley Series 1492-GH; or approved equal.

13. Relay Sockets:

a. Sockets for control relays shall be rated 5 amperes. Terminal screws shall be on the “Pressure Screw” type. Sockets shall be mounted via DIN rail and related hardware. Sockets shall be as manufactured by Allen Bradley Series 700-HN101; or approved equal.

14. Control Relay:

a. Magnetically held relays shall have one spare contact. Control relays shall have contacts rated for 10-ampere inductive load, 125 volts, with coil voltage, number of poles, and pole arrangement as indicated on the plans. Relays shall be of the indicating type. Provide Allen Bradley Series 700-HA; or approved equal.

15. Selector Switches and Indicating Lights:

a. Selector switches and indicating lights shall be supplied by one manufacturer and be of the same series or model type.

b. Type: 30 mm, Heavy duty, oil tight.

c. Selector switch contacts shall be rated for AC or DC current with devices simultaneously operated by the switch contacts but not less than 10 Amps resistive at 120 VAC/VDC continuous.

d. Indicating lights shall be rated for 120 VAC. Lamps shall be high visibility LED type, long life (20,000 hours minimum). Indicating lights shall be push-to-test.

16. Electrical Locations:

a. Terminal boxes for incoming and outgoing signal leads shall be located at the top or bottom of the panel as indicated or as otherwise required.

17. Power Supply Wiring:

a. Unless otherwise indicated, all instruments, alarm systems, and motor controls shall operate on 24 VDC.

b. At a location near the top of the panel (or bottom), the panel fabricator shall provide terminal box connections for the main power supply entry.

c. Instruments located on the same panel section and serving the same process unit may be connected to a common branch circuit from the power supply. The number of circuits depends on the circuit load as indicated. Different panel sections or different process units shall not use common branch circuits. When instruments are not equipped with integral fuses, fuses shall

be provided as required for the protection of individual instruments against fault currents. Fuses shall be mounted on the back of the panel in a fuse holder, and each fuse shall be identified by a service name tag.

d. Each potentiometer type instrument, electronic transducer, controller, or analyzer shall have an individual disconnect switch. Disconnect switches shall have metal or plastic tags indicating instrument tag numbers. Individual plug and cord set power supply connections may be used without switches when indicated.

18. Alarm Wiring: The panel vendor shall provide all alarms including light cabinets, audible signal units, test and acknowledge switches, and remote logic units as indicated. Interconnecting wiring to panel mounted initiating devices shall also be wired by the panel vendor. The wiring from external initiating devices shall be provided by the installation contractor. Where plug and cord sets are provided for component interconnection, the panel vendor shall harness and support the cables in neat and orderly fashion. Where separate wire is required, panel vendor shall install No. 16 AWG with THWN or THHN insulation between all components.

19. Signal Wiring:

a. Signal Wire - Non Computer Use:

- Signal wire shall be twisted pair or triads in conduit or troughs. Cable shall be constructed of No. 16 AWG copper signal wires with THWN or THHN insulation.

- Color code for instrument signal wiring shall be as follows:
  Positive (+): Black
  Negative (-): White

- Multiconductor cables where indicated shall consist of No. 16 AWG copper signal wires twisted in pairs, with 90–C, 600-V fault insulation. A copper drain wire shall be provided for the bundle with a wrap of aluminum polyester shield. The overall bundle jacket shall be PVC.

b. Multi-conductor cables, wireways and conduit shall be sized to allow for 10% spare signal wire.

20. 24 VDC Power Supply:

a. Panels shall be equipped with a linear 24 volt D.C. power supply for driving current loops and other D.C. powered equipment. It shall be solidly mounted, labeled and located in plain view oriented for ease of maintenance. Unit shall be sized based on 200% of load requirements of equipment actually furnished. 24 VDC power supply shall be Phoenix Contact Quint 4 series catalog No. 2904625, 24 Vdc output, 10A (12A up to +45°C), with 3% +/- voltage regulation from no-load to full-load.

21. UPS System:

a. The UPS system shall be Phoenix Contact with the following requirements.
b. Capacity:
(1) Input Power: 120 VAC single Phase 60 Hz
(2) Output Power: 24 VDC charger configuration
c. Backup Runtime: Not less than 8 hours at full rated load
d. Operating temperature: 32 F to 113 F (or better)
e. Status Monitoring to PLC, including 24 VDC Digital inputs for:
(1) On Standby Battery
(2) Low Battery
(3) Charger Fail

C. Labor and Workmanship: All panels shall be fabricated, piped and wired by fully qualified workmen who are properly trained, experienced, and supervised.

PART 3 - EXECUTION

10.1 INSTALLATION

A. Preparation and Shipping:

1. Crate panels for shipment using a heavy framework and skids. The panel sections shall be cushioned to protect the finish of the instruments and panel during shipment. All instruments which are shipped with the panel shall further have suitable shipping stops and cushioning material installed to protect parts which could be damaged due to mechanical shock. Each separate panel unit shall be provided with removable lifting lugs to facilitate handling.

2. All shipments shall be by air ride van, unless otherwise indicated.

3. All control panel testing and inspection shall be performed before shipping.

B. Control panels shall be installed in accordance with Section 13300 - Instrumentation and Control.

10.2 CONTROL PANEL SIGNAL AND CONTROL CIRCUIT WIRING

A. Wiring Installation: All wires shall run in plastic wireways except for the following:

1. Field wiring.

2. Wiring between mating blocks in adjacent sections.

3. Wiring to panel-mounted components.

B. Wiring to Rear Terminals: Wiring to rear terminals on panel-mount instruments shall be in plastic wireways secured to horizontal brackets above or below the instruments in about the same plane as the rear of the instruments.

C. Shop drawings shall show conformance to the above wiring installation requirements.

D. Wire Marking: Each signal, control, alarm, and indicating circuit conductor connected to a given electrical point shall be designated by a single unique number which shall be shown on all shop drawings. These numbers shall be marked on all conductors at every terminal using white numbered wire markers which shall be plastic-coated cloth, or permanently marked heat-shrink plastic.

E. Wires shall be fitted with a crimp type spade lug of the proper size at screw terminals except in the cases of termination fittings designed for compression or solder type termination. There shall be at least 2" of unencumbered wire extending from any point of attachment within the panel. Wire numbers shall be located within 1" of the point of attachment and shall be applied such that the number can be read from the front of the panel without rotating the wire. No more than two wires shall be located at any point of termination, including terminal blocks (terminal blocks specified are designed to accept two points of termination at each side).

F. Wires shall be routed through Panduit brand wireway of the size shown on the drawings. Routing shall separate 24 Vdc paths from 120 Vac paths as far as possible. Wireway shall be secured to the removable back panel by multiple pan head screws of the proper size at intervals of one at every other mounting hole station provided by Panduit. The mounting hole station shall be completely utilized at the extreme ends of each wireway segment. Within wireway, wire bundles shall be loosely bound with individual plastic tie wraps at intervals of approximately two feet.

G. External to wireway, wire shall be bundled neatly and secured with plastic tie wraps at intervals of approximately 8". Wire splicing within the Instrument Panel is not acceptable.

1. Wiring color code shall be as shown in this subsection

a. Blue: 24vdc +

b. Brown: 24vdc −

c. White: 120vac common

d. Black: 120vac power

e. Red: 120vac control power

f. Green: ground

g. Violet: 12vdc +

h. Yellow: 12vdc −

i. Belden black (+)

j. Belden clear (-)

H. Panels shall be fitted with a duplex electrical outlet as shown on the drawings. Illumination at the panel interior shall be by LED panel lights operated by a door switch. Provide a door switch wired to the terminal blocks, as shown on the drawings, to indicate when the RCP door is open.

I. Legend plates shall be laminated plastic or phenolic, black over white engraved by removing black material to reveal white letters. Lettering shall be sharp and clear, 3/16" nominal height. Engraving which is not uniform either letter to letter or within each character will not be accepted. Tags identifying interior components shall be affixed to the cabinet back panel.

1. The following interior components shall be labeled with phenolic tags:

a. Low voltage relay

b. Control relays

c. Modicon PLC

d. Microwave Data Systems Radio

e. AC line surge arrestor

f. DC UPS

g. DC power supply

h. Each terminal strip

10.3 CALIBRATION, TESTING, AND INSTRUCTION

A. General: Calibration, testing, and instruction shall be performed in accordance with Section 13300 - Instrumentation and Control.

B. Inspection and Approval:

1. The panel fabricator shall conduct the following tests before shipment:

a. All alarm circuits rung out to determine their operability.

b. All electrical circuits checked for continuity and where applicable, operability.

c. All nameplates checked for correct spelling and size of letters.

d. Any other test required to place the panel in an operating condition.

2. The CONTRACTOR shall furnish all necessary testing devices and sufficient manpower to perform the tests required by the ENGINEER.

3. If the above tests have not been performed before shipment, the CONTRACTOR shall be liable for back charges by the ENGINEER for the extra time required for

inspections.

4. Each control panel shall be tested in the field for functional operation after the connection of external conductors, and before equipment startup.

**** END OF SECTION ****

SECTION 13374 – CONTROL PANEL INSTRUMENTATION

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

A. The CONTRACTOR shall provide all control panel instrumentation, complete and operable, in accordance with the Contract Documents.

B. The CONTRACTOR shall provide PLC Programming for the project. Programming of the Central HMI system will be done by the OWNER under a separate contract.

1.2 RELATED SECTIONS

A. The Work of the following Sections applies to the Work of this Section. Other Sections, not referenced below, also apply to the extent required for proper performance of this Work:

1. Section 13300 Instrumentation and Control

2. Section 13370 Control Panels

1.3 CONTRACTOR SUBMITTALS

A. Shop drawings, information, and data sheets shall be submitted in conformance with the requirements of Section 13300 - Instrumentation and Control and Section 13370 - Control Panels.

B. Submit a preliminary copy of all documentation with the Factory Test procedure submittal. Submit both hard and electronic “as built” documentation with the final O&M manual submittal.

1.4 GENERAL REQUIREMENTS

A. Provide a PLC system as shown on the drawings and detailed in these specifications. Provide all I/O (analog and discrete), interface modules, and other cabling and hardware as needed to provide a fully functioning system meeting these specifications.

B. All software integration and configuration work on the project is to be completed by the approved Instrumentation Subcontractor, unless otherwise noted. Minimum Instrumentation Subcontractor qualifications are detailed in Section 13300.

C. Provide comprehensive documentation of the program logic, as required in Section 3.

1.5 SOFTWARE LICENCES

A. General

1. Provide the OWNER a non-exclusive, fully paid, perpetual license to use all the software supplied as part of this contract.

2. Provide unlimited license for all Application Software developed or configured by the Instrumentation Subcontractor for this project. Unlimited to mean the OWNER has the right to:

a. Use, duplicate and modify the software in any manner, in whole or in part.

b. Use the software in any quantity, with any type of equipment, and for any purpose.

c. To make back-up copies of all software.

B. Software updates

1. Provide the OWNER with 12 months free software updates and technical support for all manufacturer's software supplied as part of this project.

2. Upgrades and patches shall be installed by the Instrumentation Subcontractor. Schedule upgrades with the Owner.

3. The Instrumentation Subcontractor to test system after upgrade.

1.5 PLC LOGIC AND DOCUMENTATION

A. Logic Configuration shall be:

1. Logically set out in a modular format to follow the process flow.

2. Have all analogs scaled to Owner units (e.g. gpm, psi etc.) and annotate with the units where ever it is used in the program.

3. The PLC programming language shall be performed in Function Block

B. Logic Documentation:

1. CONTRACTOR is responsible for PLC & device programming. Make maximum use of the documentation facilities which come as part of the Unity Pro programming environment.

2. Use mnemonic signal and variable names that reflect the signal/variable function.

3. To provide good readability, make full use of the allowable number of characters in a signal or variable name. Excessively contracted naming that detracts from readability will not be accepted.

4. Provide a title and short English description at the start of each new strategy that explains the purpose of the logic that follows, and how it functions.

5. For each sub-section of logic within a strategy, provide a comment which explains to another programmer, the functionality of the logic. The purpose is to assist the reader with understanding the intent of the logic.

6. Provide a title, revision number, date, and page number on every page of logic.

C. Original Disks and Software Backups: Provide the Owner with:

1. Original disks for all standard Manufacturer's software supplied.

2. An electronic back-up copy of all "as built" software configured by the Instrumentation Subcontractor.

3. A record of all device hardware/ software configuration settings including IP addresses used.

4. A copy of all software licenses with the OWNER named as the software owner.

5. Provide owner with an unrestricted and current software disk of Unity Pro by Schneider Electric.

PART 2 - PRODUCTS

2.1 GENERAL

A. The PLC system shall operate in ambient conditions of 32 to 140°F temperature and 5 to 95 percent relative humidity without the need for purging or air conditioning

B. PLC system shall be designed with high noise immunity to prevent occurrence of false logic signals resulting from switching transients, relay, and circuit breaker noise or conducted and radiated radio frequency interference.

C. The controller shall be grounded to the panel ground bus with a separate ground conductor sized per the manufacturers grounding requirements.

D. Programming software: PLC Program should be written in current version of Unity Pro by Schneider Electric; no equals.

2.2 PROGRAMMABLE LOGIC CONTROLLERS

A. The microcontroller system and subsystem components shall be Modicon M340 Series.

B. Construction: The microcontroller shall be of solid-state design. All CPU operating logic shall be contained within an integral control chassis. Microcontroller terminal base units shall allow for the easy removal and replacement of the controller. The controller shall be capable of operating in a hostile industrial environment without fans, air conditioning, or electrical filtering (up to 60 degrees C and 95 percent humidity).

PART 3-- EXECUTION

3.1 GENERAL

A. Seven Day Acceptance Test: After start-up has been completed, the System shall undergo a 7-day acceptance test. The System shall run continuously for 7 consecutive days. During this period, all System functions shall be exercised. Any System interruption and accompanying component, subsystem, or program failure shall be logged for the cause, time of occurrence and duration of each failure. A failure shall cause termination of the 7-day acceptance test. When the cause of a failure has been corrected, a new 7-day acceptance test shall be started.

B. Each time the CONTRACTOR's technician is required to respond to a System malfunction, a report shall be prepared which includes details on the nature of the complaint or malfunction and the resulting repair action required and taken.

3.2 PLC PROGRAMMING REQUIREMENTS

A. The Instrumentation Subcontractor shall program the PLC such that it will communicate as specified with the Central HMI.

3.3 CONTROLLER TUNING

A. Tuning of closed loop controllers

1. Tune PID controllers by adjusting the proportional and integral gain parameters to provide a first over shoot of approximately 10 to 15%, and to provide a short settling time.

2. Where cascade loops are used, tune the innermost loop first, and then the loop outside it. To provide stability ensure that the closed loop response of an outer loop is 5 to 8 times slower than the inner loop.

B. Document closed loop response

1. After final tuning of each loop provide trend graphs showing loop response to a 5% change in setpoint, and a 5% upset in controlled variable.

2. Submit annotated loop response graphics with the Operations manual. Provide a title for each graphic and note tuning parameters used on each sheet.

3.4 RCP PANEL I/O LIST

Item	Description	Location	I/O Type	Sensor Type
1	Vault Sump Flood	Vault Sump	DI	Float Switch
2	Vault Flood 1	Vault	DI	Float Switch
3	Vault Flood 2	Vault	DI	Float Switch
4	Upstream Pressure Transmitter	Pipe Header 1	AI	Watertight Sensor
5	Valve Position	Pipe Header 1	AI	POT. Mech Linked
6	Valve Flow	Pipe Header 1	AI	POT. Mech Linked
7	Downstream Pressure Transmitter	Pipe Header 1	AI	Watertight Sensor
8	Valve Position	Pipe Header 1	DI	POT. Mech Linked
9	Upstream Pressure Transmitter	Pipe Header 2	AI	Watertight Sensor
10	Valve Position	Pipe Header 2	AI	POT. Mech Linked
11	Valve Flow	Pipe Header 2	AI	POT. Mech Linked
12	Downstream Pressure Transmitter	Pipe Header 2	AI	Watertight Sensor
13	Valve Position	Pipe Header 2	DI	POT. Mech Linked
14	Vault Intrusion Detection 1	Vault	DI	Motion Switch
15	Vault Intrusion Detection 2	Vault	DI	Motion Switch
16	UPS on Battery Power	RCP Panel	DI	-
17	UPS Low Battery	RCP Panel	DI	-
18	UPS Fail	RCP Panel	DI	-
19	RCP Enclosure Intrusion Detection	RCP Panel	Di	-

**** END OF SECTION ****

SECTION 13390 – COMMUNICATIONS

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

A. The Work of this Section includes providing a complete and operational communication system between the remote project facilities and the existing Water Operations Control Systems Center. The system shall include interface hardware, modules, radio, communication bridges, and application software necessary for a communication network.

B. The Work, equipment, and services required by this Section shall be provided and furnished by the Communication System Subcontractor.

1.2 RELATED SECTIONS

A. The Work of the following Sections applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

1. Section 13300 Instrumentation and Control

2. Section 13370 Control Panels

3. Section 13374 Control Panel Instrumentation

4. Section 16010 Basic Electrical Materials and Methods

1.3 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

A. The Work of this Section shall comply with the current editions of the following codes as adopted by the City of San Diego:

1. Uniform Fire Code

2. National Electrical Code

B. Except as otherwise indicated, the current editions of the following standards apply to the Work of this Section:

1.	ISA RP 55.1	Hardware Testing of Digital Process Computers
2.	NEMA ICS-6	Enclosures for Industrial Controls and Systems
3.	MIL Q STD 9858A	Quality Program Requirements
4.	MIL STD 2170	Reliability Prediction of Electronic Equipment
5.	IEEE 802.2	Reliability Prediction of Electronic Equipment

6. SAMA PMC-32 Logical Link Control

7. SAMA PMX-32.1 Process Instrumentation Reliability Terminology

1.4 CONTRACTOR SUBMITTALS

A. Shop drawings of all products listed in Part 2 shall be submitted.

1.5 ENVIRONMENTAL CONDITIONS

A. The communication systems shall be designed and constructed for operation under the following environmental conditions:

1. Equipment outdoors, coastal environment:

a. Temperature range: 32 through 104 degrees F

b. Thermal shock: two degree F per minute maximum

c. Relative humidity: 20 through 90%

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Delivery of Materials: Products shall be delivered in original, unbroken packages, containers, or bundles bearing the name of the manufacturer.

B. Storage: Products shall be carefully stored in a manner recommended by the manufacturer in an area that is protected from the elements.

PART 2 - PRODUCTS

2.1 GENERAL

A. Where there is more than one item of similar equipment being furnished under this Section, all equipment of the same type shall be the product of a single manufacturer.

B. All components shall be the most recent field proven models marketed by their manufacturers at the time of submittal of the shop drawings unless otherwise indicated.

C. All instrumentation shall be suitable for operation in the ambient conditions at the equipment installation locations. Heating, cooling, and dehumidifying devices shall be incorporated with the outdoor instrumentation in order to maintain it within its rated environmental operating ranges. The Communication System Contractor shall provide all power wiring for these devices.

D. The Communication System Contractor shall coordinate the installation of the communication system with all applicable utility companies and regulatory agencies having jurisdiction to secure approvals and permits which are required.

2.2 RADIO TELEMETRY

A. Licensing and Surveying:

1. The OWNER has FCC licensing for the sites included in this project. The license allows the OWNER to operate 928-952 MHZ frequencies for multiple address systems (MAS). The equipment provided shall be suitable for use on the assigned frequencies.

2. The sites included in this Contract have been surveyed and are included in the radio feasibility study performed by the OWNER. The results of this survey indicate reliable radio (900 Mhz point to point) or cellular communications can be implemented between the central station and remote site. The report is available to the Communication System Contractor from the ENGINEER.

3. Before installation of the radio equipment, the Communication System Contractor shall verify that the radio paths are still reliable based on the present terrain and structure conditions. Any structures or other objects that may obstruct the radio paths or cause transmission or path fade margin problems shall be brought to the ENGINEER's attention immediately.

4. The contractor shall install the radio or cellular equipment in the RCP Cabinet. Appropriate antenna shall be supplied for the application and a lightning surge protection device shall be installed between the antenna and radio receiver unit.

5. The OWNER shall be responsible for configuring each data radio to interface with the PLC controller or SCADA system as required.

2.3 NAMEPLATES, TOOLS AND SPARE PARTS

A. Tools: The Work includes all tools required to repair, calibrate, program, and maintain the equipment.

B. Test Equipment: It is intended that the diagnostic software furnished with the system shall be able to troubleshoot communications to the circuit board level and that local repairs will be limited to board replacement. Any special diagnostic tester required to perform troubleshooting to this level shall be furnished. A portable calibrator for the radio system shall be furnished.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: The Communication System Contractor shall employ installers who are skilled and experienced in the installation and connection of all the elements, accessories and assemblies of communication systems.

B. Access: All equipment shall be provided as indicated, or, if not indicated, so that it

will be readily accessible for operation and maintenance. The ENGINEER reserves the right to require minor changes in equipment location before roughing in without any additional cost to the OWNER.

C. Review: The Communication System Contractor shall review the existing site conditions and examine all shop drawings for equipment in order to determine exact routing and final terminations for all wiring and cables. Exact routing shall be shown on the Record Drawings.

D. Installation and Connection: The Communication System Contractor shall install and connect al field-mounted components and assemblies and as recommended by the manufacturer and as indicated.

E. Conduits: In building interior locations, conduits shall be surface mounted on walls or ceilings wherever possible and parallel to building lines. Conduit shall not be routed on floors unless indicated otherwise. In exterior locations, conduit shall be routed below grade. Existing concrete or asphalt slabs shall be sawcut, conduit installed, and the cut repaired to original condition. Exposed conduit and raceway shall be installed perpendicular or parallel to building lines.

F. Final Checks: Final check of the communication systems shall be performed as an integral part of the system specified in Section 13300 - Instrumentation and Control.

3.2 FIELD TESTING

A. RF Equipment Testing: The following measurements shall be made, recorded and compared to normal reading on each RF assembly prior to system testing to ensure that all equipment meets published specifications:

1. Operating voltages

2. Transmitter frequency

3. Transmitter output power (at output of duplexer)

4. Transmitter deviation

5. Receiver local oscillator frequency

6. Receiver sensitivity (10 to -6 BER)

B. Testing: All systems furnished under this Contract shall be exercised through operational tests in the presence of the ENGINEER in order to demonstrate compliance with requirements. The testing of the communication system shall be performed in accordance with and as an integral part of the testing of the instrumentation and control specified in Section 13300 - Instrumentation and Control.

**** END OF SECTION ****

SECTION 13427 - LIQUID LEVEL SWITCH - FLOAT

PART 1 -- GENERAL

1.1 SUMMARY

A. This section describes the requirements for float level switches used vault flood detection.

B. Related sections include:

1. Section 13300 – Instrumentation and Control

1.2 SUBMITTALS

A. Provide catalog data for all products listed in Part 2.

1.3 PERFORMANCE REQUIREMENTS

A. Provide level float switches capable of meeting the following performance requirements when installed in accordance with the manufacturer's recommendations.

1.	Repeatability:	+/- 1.0 inch of float setting.
2.	Temperature:	32 to 130 degrees F.
3.	Electrical:	SPDT Normally Closed Mercury Switch, rated for 2 amps at 120 Vac.

1.4 MAINTENANCE

A. Include the following spare parts:

1. One float with integral sealed watertight switch assembly.

PART 2 -- PRODUCTS

2.1 FLOAT SWITCH

A. Provide switch assemblies as follows:

1.	Switch Float:	Constructed of molded polyethylene or approved equal.
2.	Cable:	Cable insulation suitable for continuous submergence in water. Conductors shall be minimum 14 AWG stranded copper. Cable length to suit the installation.
3.	Termination Cabinet:	Terminate float switch cables in the flow RCP panel.

B. Provide Flygt ENM-10 or equal by Consolidated Electric, Anchor Scientific, or approved equal. Include mounting hardware.

Tag No.	Size	Trip Set Point	NEMA Rating
LSHH-1	N/A	N/A	4

2.2 FLOOD SWITCH

A. Switch shall be a stem mounted float device with 304 stainless steel stem, Buna N Float Material, Lucite Slosh Shield, IMO/GEMS Model LS-270 or approved equal.

Tag No.	Size	Trip Set Point	NEMA Rating
LSHH-2	N/A	N/A	4
LSHH-3	N/A	N/A	4

PART 3 -- EXECUTION

3.1 INSTALLATION

A. Provide junction box in the vault with a non-metallic cord grip connector for support of suspended float switch. Wire the float switch using the manufacturer's recommended flexible cable to the remotely located flow transmitter enclosure indicated.

B. Provide easily removable switch for maintenance or cleaning, without emptying the vault where mounted.

C. The vault flood switch shall be approximately 2 to 4 inches in diameter. Vault flood switches shall detect a flood condition 3 inches from the floor.

**** END OF SECTION ****

SECTION 13430 - PRESSURE GAUGE AND TRANSMITTER

PART 1 -- GENERAL

1.1 SUMMARY

A. This section describes the requirements of two-wire type pressure transmitters.

B. Related sections include:

1. Section 13300 –Instrumentation and Control.

1.2 SUBMITTALS

A. Provide catalog data for all products listed in Part 2.

1.3 PERFORMANCE REQUIREMENTS

A. Provide instruments that are capable of meeting the following performance requirements when installed in accordance with the manufacturer's recommendations:

1.	Accuracy:	+/-0.10 percent of calibrated range.
2.	Repeatability:	+/-0.05 percent of calibrated range.
3.	Drift:	Less than +/-0.5 percent of span for a six month period.
4.	Temperature Effect:	Less than +/-0.05 percent per one degree F. of span from -30 to 150 degrees F.
5.	Rangeability:	40 to 1
6.	Configurations:	Gage Pressure

PART 2 -- PRODUCTS

2.1 PRESSURE TRANSMITTER

A. Meet the following unless otherwise noted on the instrument schedule:

1.	Mounting:	Provide stainless steel wall mounting hardware.
2.	Power Supply:	12-45 Vdc.
3.	Output:	4-20 mAdc into 1500 ohms load. Linear output for gage pressure and square root output function for differential pressure.`

4.	Zero Suppression or Range Elevation:	150 percent of calibrated span.
5.	Range:	9 – 360 psi
6.	Maximum Static Pressure:	2,300 psig.
7.	Humidity:	10 to 100 percent Relative Humidity.
8.	Sensing Element:	Diaphragm type.
9.	Vent/Drain position:	Upper, one for each sensing cavity.
10.	Material:	Sensing element components to be 316 stainless steel. NEMA 4X electronic enclosure
11.	Process Connection:	0.5 inch 14 NPT
12.	Electrical Connector:	0.5 inch 14 NPT.
13.	Identification plate:	316 SST plate with site mnemonic, tag and loop numbers. Use SST wire to fasten plate to instrument for easy viewing.
14.	Design:	Provide microprocessor-based electronic design with HART protocol digital communication.
15.	Manufacturer:	SMAR model LD301 or equal.

B. Provide gage pressure transmitters for pipeline.

Tag No.	Service	Range	Drawing
PIT-1A/2A	Zone 330 Pressure	TBD	I-3
PIT-1B/2B	Zone 610 Pressure	TBD	I-3

2.2 PRESSURE GAUGES

A. General. Pressure and vacuum gauges shall, unless otherwise specified, conform to the following requirements. Gauges shall be of the stem mounting type.

B. Construction. Gauges shall be of the Bourdon tube or bellows type with 270 degrees pointer travel. Dials shall be white with black numerals. Accuracy shall be 0.5 percent and dial size shall be 4.5” inches unless otherwise indicated. Panel mounted gauges shall have round bezels for flush mounting and rear connection; others shall have a stem mounting bottom connection. Connections shall be male 1/2-inch National Pipe Thread (NPT), unless otherwise noted on the instrumentation schedule, with square wrench flats. Wetted parts shall be Type 316 stainless steel; and shall be the manufacturer's best quality standard. Cases shall be black phenolic or anodized aluminum. The pressure

gauges shall be of performance type with built-in dampening for vibration, shock and pulsation effects.

C. Manufacturer. The pressure gauges shall be Ashcroft 1279 with PLUS! performance or approved equal.

D. Provide pressure gauges for pipeline.

Tag No.	Service	Range	Drawing
PI-1A/2A	Zone 330 Pressure	TBD	I-3
PI-1B/2B	Zone 610 Pressure	TBD	I-3

2.3 ACCESSORIES

A. Provide 2-valve manifold and pipe mount bracket for each pressure transmitter.

PART 3 -- EXECUTION

3.1 INSTALLATION

A. Install the transmitter in an orientation where the sensing diaphragms are in a vertical plane.

B. Allow sufficient clearance overhead for cover removal and around the transmitter to provide an access for necessary adjustments.

C. Where transmitters are located below the pressure tap slope horizontal lines (tubing) a minimum of one inch per foot downward from the pressure taps.

D. Where transmitters are located above the pressure tap slope horizontal lines a minimum of one inch per foot upward from the pressure tap.

E. Pressure lines from the tap location to the transmitter shall not have changes in elevation that trap air in the line.

F. Assemble screwed fittings with Teflon paste or compatible metallic paste on the external threads. Teflon tape shall not be used.

G. Local output indicators to be easily accessed for viewing and service by operations personnel.

****END OF SECTION****

SECTION 16010 - BASIC ELECTRICAL REQUIREMENTS

PART 1 -- GENERAL

1.1 SUMMARY

A. This section summarizes general requirements of electrical work specified in Division 16.

1.2 DESCRIPTION OF WORK

A. The Contractor shall furnish labor, materials, equipment and services to store, transport, install, calibrate, and make operational electrical systems and equipment supplied under this contract. Include wiring, conduits, fittings, physical support systems, incidentals, and connections to link the individual components into an integrated system. Typical materials that may be incidentals are terminal lugs not furnished with vendor-supplied equipment, compression connectors for cables, splices, junction, and terminal boxes.

B. The Contractor shall install, wire, and connect all equipment and items furnished by the City and under other divisions that require electrical connections unless otherwise indicated or specified. Include all field connections and terminations to all panels, control equipment and devices, instruments, and to all vendor-furnished packaged equipment.

C. The Contractor shall include all concrete work required for encasement, installation, or construction of the Work specified in Division 16. Furnish 3000-psi concrete; the following shall apply:

1. Consolidation of encasement concrete around duct banks shall be by hand pudding, and no mechanical vibration shall be permitted.

2. A workability admixture shall be used in encasement concrete, which shall be a hydroxylated carboxylic acid type in liquid form. Admixtures containing calcium chloride shall not be used.

3. Concrete for encasement of conduit or duct banks shall contain an integral red-oxide coloring pigment in the proportion of 8 pounds per cubic yard of concrete.

D. The Contractor shall test all electrical connections and circuits for proper installation and operation.

1.3 PERMITS

A. The Contractor shall procure and pay for permits and certificates required by local and state ordinances and fire underwriter’s certificate of inspection.

1.4 SUBMITTALS

A. The contractor shall furnish within 30 days, a complete list of all materials, equipment,

apparatus, and fixtures proposed for use. The list shall include type, sizes, names of manufactures, catalog numbers, and such other information required to identify the items.

B. The Contractor shall include the following information in the submittals for this division:

1. Manufacturer, detailed items description, drawings, catalog literature and data edited to indicate specific items, such as conduit, fittings, supports, wire, cable, junction boxes, and pull boxes being provided.

2. All equipment shall be submitted in a common submittal. All installation details shall be submitted in a common submittal.

3. Installation detail drawings. Include typical details for raceway hangers and supports.

4. Complete material lists for the Work of this division. Such lists shall state the manufacturer and brand name of each item or class of material. Include shop drawings for all grounding work not specifically indicated.

5. Shop drawings are required for materials and equipment listed in other sections. Shop drawings shall provide sufficient information to evaluate the suitability of the proposed material or equipment for the intended use, and for compliance with these Specifications. The following shall be included:

a. Front, side, rear elevations and top views with dimensional data.

b. Location of conduit entrances and access plates.

c. Component data.

d. Connection diagrams, terminal numbers, wire numbers, internal wiring diagrams, conductor size, and cable numbers.

e. Method of anchoring, seismic requirement; weight.

f. Types of materials and finish.

g. Nameplates.

h. Temperature limitations, as applicable.

i. Voltage requirement, as applicable.

j. Front and rear access requirements.

6. Nameplate schedules.

C. Maintenance manuals of sufficient detail to enable a qualified technician to perform maintenance and repair.

D. Record Drawings: In addition to the record drawings as part of the record drawings requirements, the Contractor shall show depths and routing of all underground duct banks.

1.5 QUALITY ASSURANCE

A. The drawings diagrammatically indicate the desired location and arrangement of outlets, conduit runs, equipment, and other items. The Contractor shall determine the exact locations in the field based on the physical size and arrangement of equipment, finished elevations, and other obstructions. Locations shown on the drawings, however, shall be adhered to as closely as possible.

B. All conduit and equipment shall be installed in a manner to avoid all obstructions and to preserve headroom and keep openings and passageways clear. Where the drawings do not indicate exact locations, such locations shall be obtained from the Resident Engineer. Where equipment is installed without instruction and must be moved, it shall be moved without additional cost to the City.

C. All materials and equipment shall be installed in accordance with printed recommendations of the manufacturer, which have been reviewed by the Resident Engineer. Workmen skilled in this type of work shall accomplish the installation and installation shall be coordinated in the field with other trades so that interferences are avoided.

D. All Work, including installation, connection, calibration, testing, adjustment, and paint touchup, shall be accomplished by qualified, experienced personnel working under continuous, competent supervision. The completed installation shall display competent work, reflecting adherence to prevailing industrial standards and methods.

E. The Contractor shall furnish adequate means for and shall fully protect all finished parts of the materials and equipment against damage from any cause during the progress of the Work and until acceptable by the Resident Engineer.

F. All materials and equipment, both in storage and during construction, shall be covered in such a manner that no finished surfaces will be damaged, marred, or splattered with water, foam, plaster, or paint. All moving parts shall be kept clean and dry.

G. The Contractor shall replace or have refinished by the manufacturer, all damaged materials or equipment, including faceplates of panels and switchboard sections, at no cost to the City.

1. The Contractor shall perform all tests required by the Resident Engineer or other authorities having jurisdictions. All such tests shall be performed in the presence of the Resident Engineer. The Contractor shall furnish all necessary testing equipment and pay all costs of tests, including all replacement parts and labor necessary due to damage resulting from damaged equipment or from test and correction of faulty installation. The following testing shall be accomplished: Testing for the ground resistance value specified in Section 16450 – GROUNDING.

2. Insulation resistance tests specified in Section 16120 – WIRES AND CABLES.

3. Operational testing of all equipment furnished and/or connected in other sections of Division 16, including furnishing of support labor for testing.

H. Any test failure shall be corrected in accordance with the industry practices and in a manner satisfactory to the Resident Engineer.

I. The Contractor shall perform all work in accordance with all applicable provisions of the following:

1. All applicable requirements of the rules and regulations of the local bodies having jurisdiction. In addition, the Work of this division shall comply with the requirements of the current edition of the Standard Specifications for Public Works Construction (SSPWC) Subsection 209-1, together with the latest adopted editions of the Regional and City of San Diego Supplement Amendments.

2. NFPA-70 "The National Electrical Code", latest edition.

3. ANSI C-2 "The National Electrical Safety Code", latest edition.

4. NECA "National Electrical Contractors Association" guidelines.

5. All applicable requirements of the Federal Communication Commission and the Federal Aviation Authority.

6. Government Standards:

FS W-C-596H/GEN	Connector, Electrical, Power (General Specification)
FS W-S-896G	Switches, Toggle (Toggle and Lock), Flush Mounted (General Specification)
FS WW-C-581D, E	Conduit, Metal, Rigid, And Intermediate; And Coupling, Elbow, and Nipple, Electrical Conduit: Steel, Zinc Coated

7. Commercial Standards:

ANSI C80.1	Electrical Rigid Steel Conduit (ERSC)
ANSI FB1	Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing and Cable
ANSI/NEMA 250	Enclosures for Electrical Equipment (1,000 Volts Maximum

ANSI/UL 467	Grounding and Bonding Equipment
ASTM B3	Soft or Annealed Copper Wire
ASTM B8	Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft
ASTM B33	Specification for Tinned-Coated Soft or Annealed Copper Wire for Electrical Purposes
ASTM D1784	Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds
ICEA S-61-402, NEMA WC5	Thermoplastic - Insulated Wire and Cable
NEMA WC70	Power Cables Rated 2000V or Less for the Distribution of Electrical Energy
ICEA S-68-516, NEMA WC8	Ethylene Propylene Rubber Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy
NEMA RN-1	Polyvinyl Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit
UL 6	Electrical Rigid Metal Electrical Conduit - Steel
UL 44	Thermoset - Insulated Wire and Cable
UL 514A	Metallic Outlet Boxes

J. Construction and installation of all electrical equipment and materials shall comply with all applicable provisions of the OSHA Safety and Health Standards (29CFR1910 and 29CFR 1926, as applicable), State Building Standards, and applicable local codes and regulations.

K. Unless otherwise specified, the Contractor shall use new materials of current production which conform to standards established by Underwriter's Laboratories, Inc., and are so marked or labeled, together with manufacturer's brand or trademark. Equipment and material which are not covered by UL standards will be accepted provided such material

is listed, labeled, certified, or otherwise determine to meet safety requirements of an independent nationally recognized testing laboratory acceptable to the local code-enforcement agency having jurisdiction. Equipment of a class which no independent nationally recognized testing laboratory accepts, certifies, lists, labels, or determines to be safe, will be considered if inspected or tested in accordance with national industrial standards such as NEMA or ANSI. Submit certified test reports and shop drawings as evidence of compliance.

L. The Contractor shall use one manufacturer for like items and associated equipment. Components of an assembled unit need not be products of the same manufacturer.

M. The Contractor shall not interfere with continuous operation of the Owner's equipment, unless otherwise approved by the City.

N. The Contractor shall inspect the intended storage space at the site. Provide conditioning as required to protect the equipment. Provide a written report on the adequacy of storage.

O. The Contractor shall protect all stored and installed materials and equipment from physical damage, adverse weather conditions, moisture, and corrosion until final acceptance. Replace or repair any damaged equipment to the satisfaction of the Engineer.

1.6 CLEANUP

A. Cleaning of Materials and Equipment: All parts of the materials and equipment shall be thoroughly cleaned. Exposed parts shall be thoroughly clean of cement, plaster, and other materials. All oil and grease spots shall be removed with a nonflammable cleaning solvent. Such surfaces shall be carefully wiped and all cracks and corners scraped out. Paint touchup shall be applied to all scratches on panels and cabinets. Electrical cabinets or enclosures shall be vacuum cleaned before final acceptance.

B. Cleaning of the Site: During the progress of the Work, the Contractor shall clean the premises and leave the premises and all portions of the site free of debris.

1.7 DEMOLITION AND RELATED SITES WORK

A. Installation of New Equipment in Existing Structures:

1. Installation of new equipment and devices is required in existing structures. Contractor shall remove existing equipment or devices, raceways and wires as indicated, and furnish and install new equipment, conduit and wires as indictated on drawings.

2. The Contractor shall visit the sites before bidding and carefully examine existing installations so that its proposal will reflect all the Work necessary to provide a complete installation so that the resulting installation will function as required. Include in the bid price all costs of labor and materials necessary to complete installations.

3. All existing cables, conduits, and fittings used in the existing structure shall not be reused. Salvaged items shall be returned to the City.

B. Modifications to Existing Electrical Facilities:

1. The Contractor shall provide all modifications or alterations to existing electrical facilities required to successfully install and integrate the new electrical equipment. All modifications to existing equipment, panels, or cabinets shall be made in a professional manner with all coatings repaired to match existing. Modifications to existing electrical facilities required for a complete and operating system shall be made at no additional cost to the City. Extreme caution shall be exercised in digging trenches in order not to damage existing underground utilities. Cost of repairs of damages caused during construction shall be the Contractor's responsibility.

2. The Contractor shall verify all available existing circuit breakers in lighting panels for their intended use as required by the drawings. At no additional cost to the City, the Contractor shall verify the available space in substation switchboards to integrate new power circuit breakers.

PART 2 – PRODUCTS (Not Used)

PART 3 -- EXECUTION

3.1 EXAMINATION

A. The Contractor shall verify equipment locations and delivery routes prior to installation to ensure the equipment will fit in the available space. The drawings do not indicate exact scale or dimension.

B. The Contractor shall coordinate and obtain prior approval from the City or Resident Engineer before starting of the demolition work.

3.2 INSTALLATION

A. Perform work neatly. The Contractor shall keep sites clean of accumulation of cartons, trash, and debris. Remove trash and debris daily. Vacuum clean cabinets, panels and enclosures installed or modified.

B. The Contractor shall route and locate equipment items so as not to obstruct access to equipment, personnel walkways, or expose it to potential mechanical damage.

C. Install items straight and plumb. The Contractor shall exercise care so that like items are mounted the same position, heights, and general location. Securely anchor and fasten items.

D. The Contractor shall locate and install electrical devices to afford maximum safety to personnel making adjustments, manual operations, or replacement of these devices. Equipment shall be located where they can be reached without the use of ladders or without climbing or crawling over or under obstacles such as motors, pumps, piping, and ductwork.

E. The Contractor shall use bushings for entrances to existing panels, cabinets, or enclosures through drilling and knockouts.

F. The Contractor shall tag wires with foreign voltages to indicate source of power.

3.3 GENERAL

A. The Contractor shall install electrical equipment and material of the size, type, and general routing as shown on the drawings.

B. The Contractor shall install metallic raceway, fittings, boxes, and cabinets free from direct contact with reinforcing steel.

C. The Contractor shall provide fasteners, anchor bolts, anchorage items and supports as required for rigid alignment and sized according to size and weight of equipment and thickness of supporting surfaces.

D. Where aluminum is placed in contact with dissimilar metal or concrete, the Contractor shall separate contact surfaces with gasket, non-absorptive tape, or coating to prevent corrosion.

E. The Contractor shall make metallic conduit, raceways, and cable trays electrically and mechanically continuous and ground as required. Conduits shall be continuous between outlets, boxes, cabinets, and panels, and shall enter and be secured to each box.

F. A ground conductor shall be provided in each raceway run.

G. Not more than one 3-phase circuit or feeder shall be installed in a conduit run.

3.4 TESTING

A. The Contractor shall perform field-testing to demonstrate correct installation and operation of equipment.

B. Upon completion of work, the Contractor shall test the electrical system for shorts and grounds and proper phasing. The Engineer will observe the testing.

3.5 CLEANING

A. Touch up paint surfaces marred during installation. The Contractor shall submit color samples prior to painting. Remove foreign paint from exterior and touch up scratches with same paint as original. Sand, prime, and repaint rusted areas.

B. Clean and lubricate relay contacts, pushbutton and other control devices installed or

modified. Lubricate with CRC 2-26 or other lubricant or cleaning agent specifically designed for this purpose.

C. At completion of work in any area, the Contractor shall remove all debris and unused materials and equipment and leave all areas broom clean. Where work in carpeted areas results in visible soiling of carpets, clean the affected carpets and restore them to the original condition.

3.6 PROTECTION

A. The Contractor shall maintain site security.

1. Verify that all cabinets, doors, and gates that were opened during the day are locked when leaving.
2. Do not leave unlocked cabinets unattended.

****END OF SECTION****

SECTION 16110 – RACEWAYS

PART 1 -- GENERAL

1.1 SUMMARY

A. The section describes the requirements for raceways including the following:

1. Conduit
2. Fittings
3. Miscellaneous Specialty Fittings
4. Raceway Supports
5. Underground Ducts and Manholes
6. Outlet, Junction, and Pull Boxes
7. Wiring Devices
8. Terminal Cabinets
9. Sealants

B. Reference is made to the following related sections:

1. Conduit identification per Section 16195 - Electrical Identification.
2. Conduit support per Section 16190-Supporting Devices

1.2 SUBMITTALS

A. See Section 16010 for general submittal requirements for Division 16.

1.3 SYSTEM DESCRIPTION

A. Size conduit in accordance with the National Electrical Code, but galvanized rigid steel (RGS) conduit shall be no smaller than 3/4 inch and schedule 40 PVC conduit shall be no smaller than 1 inch. Use larger sizes if shown.

B. Use fittings of the same material matching the raceway.

C. PVC coated galvanized rigid steel conduit (RGS) shall be used in all exposed and/or above grade locations and within underground vault structures and for the vertical conduit transition from underground to above grade. Schedule 40 PVC shall be used for direct buried or concrete encased underground. 24 Vdc discrete and analog signals may occupy the same conduit.

PART 2 -- PRODUCTS

2.1 CONDUIT

A. General: Raceway shall be manufactured in accordance with UL and ANSI standards and shall bear UL label as applicable.

B. Galvanized Rigid Steel (RGS) Conduit:

1. Rigid steel conduits and fittings shall be full weight, mild steel, hot dip galvanized and zinc bichromate coated inside and outside after galvanizing.

2. Each piece of conduit shall be straight, free from blisters and other defects, cut square and taper reamed. Furnish in 10-foot lengths minimum, threaded at each end. Provide couplings at one end and a protective sleeve for the other end.

3. Rigid steel conduit shall be manufactured in accordance with UL Standard No. 6 and ANSI C80.1.

4. Rigid steel conduit shall be manufactured by Triangle PWC, Republic Steel, or equal.

C. Rigid Nonmetallic Conduit: Rigid nonmetallic conduit shall be Schedule 40 PVC.

1. Nonmetallic conduits and fittings shall be UL listed, sunlight-resistant, and rated for use with 90 degrees C conductors.

2. Use expansion joints as recommended by the manufacturer.

3. Nonmetallic conduits and fittings shall be manufactured by Carlon, Condux, or equal.

D. Flexible Metallic Conduit: Liquid-tight flexible metallic conduit shall have an extruded PVC covering over the flexible steel conduit. Conduit shall be approved for grounding. For conduit sizes 3/4 inch through 1-1/4 inches, flexible conduits shall have continuous built-in copper ground conductor. Flexible conduit shall be American Brass, Anaconda, Electroflex, or equal. Explosion-proof flexible conduits shall be used for Class I, Div. 1, Group C&D areas.

E. PVC coated RGS shall be 40 mil coating. Robroy, OCAL, or approved equal.

1. Comply to all requirements for RGS conduit.
2. PVC coated rigid steel conduit shall be manufactured in accordance with UL Standard No. 6 and ANSI C80.1 and in compliance with NEMA RN-1.

2.2 FITTINGS

A. General: Fittings shall comply with the same requirements as the conduit with which they will be used. Fittings having a volume less than 100 cubic inches for use with rigid steel conduit, shall be cast or malleable nonferrous metal. Such fittings larger than one inch

shall be "mogul size." Fittings shall be of the gland ring compression type. Use threaded connectors for all rigid metal conduits. Covers of fittings, unless in "dry" locations, shall be closed with gaskets. Surface-mounted cast fittings, housing wiring devices in outdoor and damp locations, shall have mounting lugs.

B. Insulated Bushings: Insulated bushings shall be molded plastic or malleable iron with insulating ring, similar to O-Z Type A and B, equivalent types by Thomas & Betts, Steel City, Appleton, O-Z/Gedney, or equal.

C. Insulated Grounding Bushings: Insulated grounding bushings shall be malleable iron with insulating ring and with ground

D. Erickson Couplings: Erickson couplings shall be used at all points of union between ends of rigid steel conduits which cannot be coupled. Running threads and threadless couplings shall not be used. Couplings shall be 3-piece type such as Appleton Type EC, equivalent types such as manufactured by T & B, Steel City, O-Z/Gedney, or equal.

E. Liquid-Tight Fittings: Liquid-tight fittings shall be similar to Appleton Type ST, equivalent types such as manufactured by Crouse-Hinds, T & B, O-Z/Gedney, or equal.

F. Hubs: Hubs for threaded attachment of steel conduit to sheet metal enclosures, where required, shall be similar to Appleton Type HUB, equivalent types such as manufactured by T & B, Myers Scrutite, or equal.

G. Transition Fittings: Transition fittings to mate steel to PVC conduit, and PVC access fitting, shall be as furnished or recommended by the manufacturer of the PVC conduit.

H. Sealed Fittings: Sealing fittings are required in conduit runs entering hazardous areas and elsewhere as shown. Sealing fittings shall be Appleton Type EYS, O-Z Type FSK, or equal. Sealing compound shall not be poured in place until electrical installation has been otherwise accepted.

I. Expansion Fittings: Expansion fittings shall be installed wherever a raceway crosses a structural expansion joint. Such fittings shall be expansion and deflection type and shall accommodate lateral and transverse movement. Fittings shall be O-Z/Gedney Type "DX," Crouse Hinds "XD," or equal. These fittings are required in metallic and nonmetallic raceway installations. When the installation is in a nonmetallic run, a 3-foot length of rigid conduit shall be used to connect the nonmetallic conduit to the fitting.

2.3 MISCELLANEOUS SPECIALTY FITTINGS

A. Provide conduit thru-wall seals where conduits pass through exterior concrete or masonry walls below grade. The seals shall consist of a hot dip galvanized steel sealing gland assembly capable of providing a seal around the conduit to withstand 50 feet of water head without leakage. The shell of the seal shall have at least two cast collars at a right angle to the sleeve that is embedded in the concrete. For new structures, provide O-Z/Gedney type WSK, or equal. For cored hole applications in existing structures, provide O-Z/Gedney type CSM, or equal.

2.4 RACEWAY SUPPORTS

See section 16190 for raceway support.

2.5 UNDERGROUND DUCTS AND MANHOLES

A. General: Where an underground distribution system is required, it shall be comprised of multiple runs of single bore nonmetallic ducts, concrete encased, with steel reinforcing bars, with underground manholes and pullboxes. They shall be rigid Schedule 40 PVC for concrete encasement.

1. Manholes and pullboxes shall be of precast concrete. Concrete construction shall be designed for traffic loading.

   Covers shall be traffic type, except as shown otherwise. Manholes and pullbox covers designated as "HV" covers shall be identified as "High Voltage Electric," "P" shall be identified as "Secondary Electric," "C" as "Control" and "S" as "Signal." All covers shall be watertight after installation.

   Manholes and pullboxes shall be equipped with pulling-in irons opposite and below each ductway entrance.

   Manholes shall have concrete covers with 30-inch diameters lids. All covers and lids shall be bolted to cast-in-place frames with corrosion resistant hardware. Frames shall be factory-primed; covers shall be cast-iron and shall have pick holes.

2. Manholes and pullboxes shall have cable support so that each cable is supported at 3-foot intervals within the manhole or pullbox. Cable supports and racks shall be fastened with galvanized bolts and shall be fabricated of fiberglass or galvanized steel. Porcelain insulators for cable racks shall be provided.

3. Manholes and pullboxes shall be Brooks, Quikset, U.S. Precast, or equal. Cast-iron covers shall be by U.S. Foundry, or equal.

2.6 OUTLET, JUNCTION, AND PULL BOXES

A. General: Outlet, switch, pull and junction boxes for flush mounting in general purpose locations shall be one-piece, galvanized, pressed steel. Ceiling boxes for flush-mounting in concrete shall be galvanized, pressed steel.

B. Corrosive Locations: The pressure reducing station shall be considered a corrosive location. Control station, pull and junction boxes, including covers shall meet the NEMA 4X requirements and shall be stainless steel with SS mounting hardware.

2.7 SEALANTS

A. Provide non-hardening, UL approved type sealant for wall penetrations and underground ductbank seals.

B. Provide hard setting, UL approved type sealant for hazardous location seal fittings.

PART 3 – EXECUTION

3.1 GENERAL

A. Raceways and ductbank are shown diagrammatically and shall be routed to suit field conditions meeting NEC and specifications requirements. The Contractor shall check location of equipment connections before installing raceways and locate and arrange raceways accordingly. Raceway systems shall be electrically and mechanically complete before conductors are installed. Bends and offsets shall be smooth and symmetrical, and shall be accomplished with tools designed for the purpose intended. Factory elbows shall be used for all 3/4-inch conduit. Bends in larger sizes of metallic conduit shall be accomplished by field bending or using factory elbows.

B. Raceways shall be installed in accordance with the following schedule:

1. Low Voltage Raceway:

a. Rigid Schedule 40 PVC shall be used for concrete encased duct in earth.

b. PVC coated RGS conduit and fittings shall be used in vaults and all exposed, above ground locations.

C. Exposed Raceways:

1. Conduits shall be rigidly supported with clamps, hangers, and Unistrut channels.

2. Intervals between supports shall be in accordance with the National Electric Code.

D. Conduit Terminations: Empty conduit terminations not in manholes or pullboxes shall be plugged. Exposed raceway shall be installed perpendicular or parallel to buildings except where otherwise indicated. Conduit shall be terminated with flush couplings at exposed concrete surfaces. Conduit stubbed up for floor-standing equipment shall be placed in accordance with approved shop drawings. Metallic raceways installed below-grade or in outdoor locations and in concrete shall be made up with a conductive waterproof compound applied to threaded joints. Compound shall be Zinc Clads Primer Coatings No. B69A45, HTL-4 by Crouse-Hinds, Kopr Shield by Thomas & Betts, or equal.

E. Install metallic raceway, fittings, boxes, and cabinets free from direct contact with reinforcing steel.

F. Provide fasteners, anchor bolts, anchorage items and supports as required for rigid alignment and sized according to size and weight of equipment and thickness of supporting surfaces.

G. Make metallic conduit, raceways, and cable trays electrically and mechanically continuous and ground as required. Conduits shall be continuous between outlets, boxes, cabinets, and panels, and shall enter and be secured to each box.

H. Provide ground conductor in each raceway run.

3.2 CONDUIT INSTALLATION

A. Conduit may be cast integral with horizontal and vertical concrete slabs, providing one-inch clearance is maintained between conduit surface and concrete surface. If said clearance cannot be maintained, the conduit shall be installed exposed below elevated slabs; provided, that in the case of slabs on grade, conduit shall be installed below the slab. Maximum size of conduit that can be cast in slab shall be 1 inches.

B. Nonmetallic conduit may be casted integral with horizontal slabs with placement criteria stated above. Non-metallic conduit may be run beneath structures or slabs on grade, at 12 inches minimum below the bottom of the structure or slab without concrete encasement. Nonmetallic conduit may be buried 24 inches minimum below grade, with a 3-inch concrete cover, in open areas or where otherwise not protected by concrete slab or structures. Top of concrete cover shall be colored red. Nonmetallic conduit shall be permitted only as required by the Specifications and in concealed locations as described above.

C. Where a run of concealed PVC conduit becomes exposed, a transition to rigid steel conduit is required. Such transition shall be accomplished by means of PVC coated rigid steel conduit, terminating at the exposed concrete surface with a flush coupling. Piercing of concrete walls by nonmetallic runs shall be accomplished by means of a short steel nipple terminating with flush couplings.

D. Flexible conduit shall be used at dry locations for the connection of equipment such as motors, transformers, instruments, valves, or pressure switches subject to vibration or movement during normal operation or servicing. Flexible conduit may be used in lengths required for the connection of recessed lighting fixtures; otherwise, the maximum length of flexible conduit shall be 18 inches.

E. In other than dry locations, connections shall be made using flexible liquid-tight conduit. Equipment subject to vibration or movement which is normally provided with wiring leads, such as solenoid valves, shall be installed with a cast junction box for the make-up of connections. Flexible conduits shall be as manufactured by American Brass, Cablec, Electroflex, or equal.

F. Galvanized Rigid Steel Conduit (RGS): Treat field cut threads with a liquid galvanized solution or a conductive rust inhibitor that will maintain ground continuity before installing locknuts, bushings, or other fittings. Where required use UL approve conduit unions. Do not use split couplings or running threads in lieu of unions.

G. Flexible Metallic Conduit (liquid tight): Use only for terminations to vibrating or moving equipment such as motors or transformers. Connectors shall be liquid tight, stainless steel, or bronze with insulated throats.

H. Rigid nonmetallic conduit: All exposed bends and risers shall use PVC coated rigid steel conduit. Do not use PVC conduit for routing of analog or communication signal circuits.

I. Earth Buried Conduits

1. For conduits buried in earth provide minimum 30 inches of cover and minimum of one foot clearance between other utility crossings and parallel runs. Maintain a grade of at least four inches per 100 feet either from one manhole or pull box to

the next or from a high point between them. Drain conduits away from building, if not possible provide watertight seal at building.

2. Provide detectable warning tape approximately 12 inches above and directly over centerline of ductbank.

J. Conduit Damage Correction

Repair cuts, nicks, and abrasions or replace damaged conduit as required.

K. Conduit Penetrations

1. Seal all raceways entering structures at the first box or outlet with oakum or suitable plastic expandable compound to prevent the entrance into the structure of gases, liquids, or rodents.
2. Dry pack with nonshrink grout around raceways that penetrate concrete walls, floors, or ceilings aboveground.
3. Where an underground conduit enters a structure through a concrete roof or a membrane waterproofed wall or floor, provide an acceptable, malleable iron, watertight, entrance sealing device. When there is no raceway concrete encasement, provide such device having a gland type sealing assembly at each end with pressure bushings that may be tightened at any time. When there is raceway concrete encasement indicated, provide such a device with a gland type sealing assembly on the accessible side. Securely anchor all such devices into the masonry construction with one or more integral flanges. Secure membrane waterproofing to such devices in a permanently watertight manner.

4. Where an underground raceway without concrete encasement enters a structure through a nonwaterproofed wall or floor, install a sleeve made of Schedule 40 galvanized pipe. Fill the space between the conduit and sleeve with a suitable plastic expandable compound, or an oakum and lead joint, on each side of the wall or floor in such a manner as to prevent entrance of moisture. A watertight entrance sealing device may be used in lieu of the sleeve.

5. Make concealed penetrations for conduits not more than 1/4 inch larger than the diameter of the conduit. Make penetrations through walls, ceiling, and floors other than concrete for exposed conduits not more than 1/4 inch larger than the diameter of the conduit. Fill void around conduit with caulking compound and finish surface same as wall, ceiling, or floor.

6. Where a conduit enters through a concrete non-waterproofed wall, floor, or ceiling, provide a galvanized steel sleeve, Schedule 80, and fill the space between the conduit and sleeve with plastic expandable compound or an oakum and lead joint. If the sleeve is not placed with the concrete, drill hole not less than 1/2-inch or more than one inch larger than sleeve, center sleeve, and grout sleeve total depth of penetrated concrete with non-shrink grout, polyurethane, or silicone sealant.

7. Where conduits penetrate walls, install junction box on other side of penetration. Separate 120 Vac boxes from low, dc voltage circuits.

3.3 UNDERGROUND DUCTS AND MANHOLES INSTALLATION

A. Duct Bank Installation: The underground concrete encased duct bank shall be installed in accordance with the criteria below:

1. Duct shall be assembled using high impact nonmetallic spacers and saddles to provide conduits with vertical and horizontal separation. Plastic spacers shall be set every 5 feet.

2. The duct shall be laid on a grade line of at least 4 inches per 100 feet, sloping towards pullboxes or manholes. Duct shall be installed and pullbox and manhole depths adjusted so that the top of the concrete envelope is a minimum of 24 inches below grade.

3. Changes in direction of the duct envelope by more than 10 degrees horizontally or vertically shall be accomplished using bends with a minimum radius 24 times the duct diameter.

4. Couplings shall be staggered at least 6 inches vertically. Bottom of trench shall be of select backfill or sand. The duct array shall be anchored every 4 feet to prevent movement during placement of the concrete envelope.

5. Each bore of the completed duct bank shall be cleaned by drawing through it a standard flexible mandrel one foot long and 1/4-inch smaller than the nominal size of the duct through which the mandrel will be drawn. After passing of the mandrel, draw a wire brush and swab through.

6. All empty conduits shall have a 1/8-inch polypropylene pull cord installed throughout the entire length of the conduit.

7. Concrete encased duct bank shall terminate at building foundations. When duct enters the building on a concrete slab on grade, duct shall not be encased, but shall transition to rigid steel PVC-coated conduits on all stub-ups.

B. Duct Entrances: Duct entrances shall be grouted smooth; duct for primary and secondary cables shall be terminated with flush end bells. Sections of prefabricated manholes and pullboxes shall be assembled with waterproof mastic and shall be set on a bed of gravel as recommended by the manufacturer or as required by field conditions.

C. Watertight Penetrations: Duct bank penetration through walls of manholes or pullboxes, and on building walls below grade shall be watertight.

D. Trench Backfill: Trenches containing duct banks shall be filled with select backfill with no large rocks which could damage the duct.

E. Concrete Encased Duct Banks: Concrete encased duct bank shall terminate at building foundations. When duct enters the building on a concrete slab on grade, duct shall not be encased, but shall transition to rigid steel PVC-coated conduits on all stub-ups.

3.4 OUTLET, JUNCTION, AND PULL BOXES INSTALLATION

A. For boxes mounted on steel, concrete, and masonry surfaces provide minimum ¼-inch spacer to hold box away from surface.

B. Sizing: Pull and junction boxes shall be sized in accordance with the requirements of the NEC.

C. Outlet Boxes: Outlet boxes shall be used as junction boxes wherever possible. Where separate pullboxes are required, they shall have screw covers.

D. Requirements: Pullboxes shall be installed when conduit run contains more than three 90-degree bends and runs exceed 200 feet.

E. Opening in terminal panels, outlet and junction boxes shall be by means of welded bosses, standard knockouts, or shall be sawed, drilled, or punched with tools specially made for the purpose. The use of a cutting torch is prohibited. Unused openings shall be plugged to maintain the NEMA rating of the panel and junction boxes.

F. Remove debris including dust, dirt, wire clippings and insulation from interior of boxes. Replace damaged boxes or boxes with open circuit holes.

G. Where boxes are shown on each side of a common wall do not mount back-to-back but offset horizontally minimum of six inches.

H. For wet or damp indoor or outdoor locations use boxes of rust and corrosion resistant NEMA 4X, with at least 5 1/2 full threads for each (bossed) conduit opening. Boxes to be suitable for flush or surface mounting as required with drilled external, cast mounting extensions (bossed to provide at least 1/8" between back of box and mounting surface for drainage). Box covers shall be hinged, or cap screw retained as required, of the same material as the box and provided with stainless steel (rust proof) hardware. Indoor location may use boxes constructed of stainless steel or non-metallic. Outdoor boxes shall be stainless steel.

I. For underground locations use boxes constructed of reinforced concrete cast-in-place or prefabricated as shown on the Drawings.

END OF SECTION

SECTION 16120 - WIRES AND CABLES

PART 1 -- GENERAL

1.1 SUMMARY

A. This section describes requirements for power, control, and instrumentation wiring including the followings:

1. 600 volt and below power cable.

2. 600 volt and below control cable.

3. Shielded signal instrument cable.

4. Wire terminations, splices, and Connectors.

B. Reference is made to the following related sections:

1. Conductor identification per Section 16195 - Electrical Identification.

2. Installation in raceways per Section 16110 - Raceways.

1.2 SUBMITTAL

A. In addition to the general submittal requirement in section 16010, include the followings in the submittal for this section:

1. Twelve-inch length of wire and cable with tag from coils or reel from which samples are taken. The sample shall show manufacturer, coil or reel number from which sample was taken, insulation type and ratings, conductor AWG, and voltage class of cable.

2. Cable test procedures and methods.

3. Cable test results and certification.

1.3 DELIVERY, STORAGE, AND HANDLING

A. Deliver wire and cable in unbroken package or reels that bear the manufacturer name, the dates of manufacture, wire size, and wire type.

PART 2 -- PRODUCTS

2.1 GENERAL

A. All conductors, including ground conductors, shall be copper. Insulation shall bear UL label and the manufacturer’s trademark, type, voltage, and temperature rating, and conductor size. Wire and cable shall be the products of AWC Wire, Southwire, Okonite, Houston Wire and Cable, or approved equal.

2.2 MATERIALS

A. Single Conductor Power Cable. Single conductor power cable shall be 12 AWG minimum. Conductors shall be copper, stranded, 600-volt, THHN/THWN insulation, and shall be UL listed.

B. Single conductor Control Cable. Single conductor control cable shall be 14 AWG minimum. Conductors shall be copper, stranded, with 600-volt, THHN/THWN insulation, and shall be UL listed.

C. Multiconductor Control Cable. Multiconductor control cable shall be 14 AWG with copper conductors 600 volt, THHN/THWN insulation, and overall PVC jacket applied over tape wrapped cable core. Cable shall be rated type TC and shall be UL listed. Cable shall be rated 90 C dry, 75 C wet. Conductors shall be identified per ICEA S61402 Appendix K, Method 1 or Method 3. White or green conductors shall not be provided.

D. Single Shielded Pair or Triad. Conductors shall be 16 AWG minimum. Cable shall have 300 volt insulation minimum. Wires shall have uniform twists with a minimum of 6 twists per foot. Each pair or triad shall be provided with a continuous foil or metalized plastic shield providing 100 percent coverage. Each pair or triad shall contain a tinned copper drain wire in continuous contact with the shield. Each pair shall have a black and white wire, each triad shall have a black, white, and red wire. Insulated conductors shall meet the requirements of UL 62 for type TFN. Assembly jacket shall meet the requirements of UL 1277. Cable shall meet the vertical flame test requirements of UL 1685 and shall be rated type TC and shall be UL listed.

E. Multiconductor shielded pair or triad. Conductors shall be 18 AWG minimum. Wires shall have uniform twists with a minimum of 6 twists per foot. Each pair or triad and cable assembly shall be provided with a continuous foil or metalized plastic shield providing 100 percent coverage and total shield isolation from all other pair or triad shields. Each pair shall have a black and white wire, each triad shall have a black, white, and red wire. Each pair or triad shall contain a tinned copper drain wire in continuous contact with the shield. Insulated conductors shall meet the requirements of UL 62 for type TFN. Assembly jacket shall meet the requirements of UL 1277. Cable shall meet the vertical flame test requirements of UL 1277 and shall be rated type TC and shall be UL listed.

F. Ground Cable. All ground cable shall be in conformance with specification section 16450-Grounding. Ground cables shall be bare or green insulated, copper, 12 AWG minimum. Insulated cable shall meet the requirements for Single Conductor Power Cable above.

G. The same manufacturer shall manufacture each type of cable listed above, multiple manufacturers for the same type of cable shall not be allowed.

2.3 COLOR CODING

A. Provide color coding throughout the entire network for service, feeder, branch, control, and low energy signal circuit conductors. Color coding of conductors 10 AWG and smaller shall have factory impregnated color throughout its entire length. Conductors No. 8 AWG and larger gauge may be marked with color coding tape a minimum of 0.004 inch in thickness. Color shall be green for grounding conductors, and white or gray for

neutrals. When using color-coding tape apply with overlapping turns for a minimum length of two inches starting two inches back from the termination point. The color of conductors for different voltage systems shall be as follows:

SYSTEM	PHASE A	PHASE B	PHASE C	NEUTRAL	GROUND
120/240 one phase	black	red	---	white	green
208/120 three phase	black	red	blue	white	green
480/277 three phase	brown	orange	yellow	gray	green
Control and low energy	black	red	---	white	---

2.4 WIRE CONNECTIONS AND CONNECTING DEVICES

A. Electrical Terminal and Splice Connectors

1. Splicing of conductors is not permitted. Provide continuous conductor runs.

2. For terminating conductors from #22 through #10 AWG use compression type connectors with barrels and locking spade type terminals. Conductor entry and crimp area shall be insulated with PVC insulation. Performance, construction, and materials shall be in conformance with UL standards for wire connectors and rated for 600 volts and 105 degrees Celsius. Connectors shall be manufactured from high conductivity copper and entirely tin-plated. Terminal barrels shall be brazed seam or seamless construction serrated on the inside surface and have a chamfered funnel entry to prevent strand fold-back.

3. For terminating conductors #8 AWG and larger use high pressure compression type or set screw type lugs. Lugs shall be manufactured from high conductivity copper and entirely tin plated with a current carrying capacity equal to the conductors for which they are rated and must also meet UL requirements. All lugs above 4/0 AWG shall be 2-hole lugs with NEMA spacing, rated for operation through 35 kV, and be of closed end construction to exclude moisture migration into the cable conductor.

4. Use solderless/re-usable lugs only when furnished with equipment such as control panels, furnished by others, where specification of compression type lugs is beyond the Contractor's control. Lugs must be manufactured to NEMA standards, with standard number and spacing of holes and set screws. Coat wires with electrical joint compound, T & B Kopr-Shield, Penn-Union Coal-Aid, or equal before being bolted into the connector.

PART 3 -- EXECUTION

3.1 GENERAL

A. Run all wires and cables in raceways unless otherwise noted.

B. Conductors shall not be pulled into raceway until:

1. Raceway system is complete and has been inspected and accepted by the Engineer.

2. Plastering and concrete have been completed in affected areas.

3. Raceway system has been freed of moisture and debris.

C. Wire in panels, cabinets, and gutters shall be neatly grouped using nylon tie straps and shall be fanned out to terminate.

D. For multiconductor or manufactures supplied cable not installed in raceways, terminate cable sheaths in watertight connectors designed for the specific cable and application.

E. Conductors of No. 1 size and smaller shall be hand pulled. Pull conductors without exceeding manufacturer's recommendation for maximum pulling tension. Protect conductor insulation jacket at all times from kinks, scrapes, punctures, and other damage. Replace damaged conductors. Use lubricating compound to reduce pulling force. Use lubricating compound that is UL listed and compatible with the conductor-insulated jacket and with the raceway. The use of petroleum or grease-based lubricants is prohibited.

F. Support conductors in vertical risers with woven grips to prevent loading on conductor connectors per NEC 300.19(A)

G. In conduits entering buildings or from areas where temperature change may cause condensation or moisture, seal between conductors and conduit after conductors are in place.

H. Provide full-length ground conductor in all conduits.

I. Leave a minimum of six inches of free conductor at each connected outlet and a minimum of nine inches at unconnected outlets.

3.2 APPLICATION AND USE OF DIFFERENT CABLE TYPES

A. Single Conductor Power Cable - Single conductor power cable shall be used for all ac power feeders and branch circuits.

B. Single Conductor Control Cable - Single conductor or mulitconductor control cable can be used interchangeably for all discrete control signals.

C. Multiconductor Control Cable - Single conductor or mulitconductor control cable can be used interchangeably for all discrete control signals.

D. Single Shielded Pair or Triad - Single shielded pair or triad conductors or multiconductor shielded cables can be used interchangeably on analog signal lines of less than 24 volts.

E. Multiconductor shielded pair or triad - Single shielded pair or triad conductors or

multiconductor shielded cables can be used interchangeably on analog signal lines of less than 24 volts.

F. Ground Cable - Use ground cable for all equipment ground and earth ground connections.

3.3 TERMINATION

A. Make all wire and cable terminations in UL approved lugs for the application.

B. Connect circuit conductors of the same color to the same phase throughout the installation.

C. Insulate connections/splices with a smooth even contour with a conformable 7 mil thick vinyl plastic insulating tape which can be applied under all weather conditions and is designed to perform in a continuous temperate environment up to 105 degrees Celsius. Use tape with resistance to abrasion, moisture, alkali's, acids, corrosion, and varying weather conditions (including sunlight) equal to Scotch Super 33+. Apply tape in conformance with manufacturer's recommendations and in addition, in successive half-lapped layers with sufficient tension to reduce its width to 5/8 of its original width. Do not stretch the last inch of wrap.

D. First wrap connections or splices with irregular shapes or sharp edges protruding with 30 mil rubber tape to smooth the contour of the joint before being insulated with 33+ insulating tape specified in the previous paragraph.

1. Apply rubber tape in successive, half-lapped wound layers, highly elongated to eliminate voids, and in accordance with other manufacturer's recommendations on installation.

E. Make splices made in wet or damp locations or below grade with watertight and special kits made for the application and compatible with types of cables employed.

F. Make connections to lugs and bus bars, with corrosion resistant 316 stainless steel bolts having non-magnetic properties with matching nuts, and a Belleville spring washer (stainless steel) to maintain connection integrity. Torque connections to the specified limits. Prior to bolting up the connection, brush electrical joint compound on the contact faces of the electrical joint.

3.4 SEPARATION OF CONDUCTORS

A. Run 24 Vdc discrete and analog signals in separate conduits from 115 Vac discrete signals and wiring.

B. Neatly arrange wiring with terminations located directly opposite terminals. Leave wire loops not less than 6 inches long in each outlet box. Tape frayed terminals and exposed wires.

3.5 SPARE WIRES

A. Notify the Engineer of any instance in which the spare conductor quantity cannot be

installed. Tape off all spare conductors in the originating field junction boxes. Terminate and label in terminal boxes. Include all spare wires in conduit and wire schedules.

3.6 TESTING

A. Cable assembly and testing shall comply with applicable requirement ICEA Publication No. S-68-516 and other relevant ICEA publications. Field tests shall be performed by a certified test organization acceptable to the cable manufacturer.

B. All wiring shall be tested for continuity, polarity, undesirable ground, and origination. Test wiring for continuity using an ohmmeter. Replace any conductor or cable where the measured resistance exceeds the calculated resistance based on conductor size and length by more than 5 % unless otherwise directed by the engineer.

C. Before terminating conductors test all conductors between phases and phase to ground for grounds and leakage between individual conductors using a megger capable of producing voltages of at least 500 volts for 300 volt insulation levels and 1000 volts for 600 volt insulation levels. If any conductor tested indicates resistance between

C. conductors or between the conductor and ground of less than 10 megohms, replace the failed wire or cable unless otherwise directed by the engineer.

D. Cables failing in the test will be replaced with new cable or repaired. Such kind of repair methods shall be as recommended by the cable manufacturer and shall be performed by persons qualified by the industry.

E. Submit test results to the Resident Engineer and certify all conductors have passed the required tests. Correct problems noted during these tests.

END OF SECTION

SECTION 16190 - SUPPORTING DEVICES

PART 1 -- GENERAL

1.1 SUMMARY

A. This section describes the requirements of supporting devices for equipment, antennas, conduit, and cables.

B. A registered Civil Engineer in the State of California is required to prepare calculation that show equipment anchorage and support structure requirements will comply with the UBC (latest edition), City Seismic requirements, and wind loading requirements for antenna masts.

1.2 SUBMITTALS

A. Include the following information in the submittal for this section:

1. Shop drawings of parts and assembly.

2. Descriptive data sheets, literature, bulletins, and related data annotated as necessary to describe the antenna tower or pole and related equipment to be furnished.

3. Wind Zone information.

4. Specific arrangement, dimension drawings, erection and assembly drawings for the antenna tower or pole supplied. This shall include all engineering drawings and calculations for the antenna tower or pole, pier foundation, anchor bolts, etc., as prepared by a registered Professional Engineer.

1.3 SITE CONDITIONS

1. Alitude: Less than 3000 feet
2. Ambient Temperature: 44°F~95°F
3. Humidity: 0 to 95% non condensing
4. Earthquake: CBC 2016 & Seismic Design Category D
5. Installation location: San Diego, CA

PART 2 -- PRODUCTS

2.1 MATERIALS

A. Do not use expansive screw anchors, shields, or other fastening items containing lead or other material that might loosen or melt under fire conditions. Do not use power-actuated fasteners and devices.

B. Equipment or enclosure support devices.

1. Mounting brackets and support channels shall be stainless steel, unless otherwise specified on the drawings. Fasteners used to mount equipment outdoors shall be stainless steel and designed for use with the support channels.

2. Provide supporting devices manufactured by Unistrut, Bee-Line, Kindorf, or equal.

C. Raceway Supports

1. Except as noted herein, supports and hangers shall be stainless steel.

2. Fasteners shall be expansion bolts or inserts for concrete, toggle bolts for hollow masonry or frame construction and preset inserts for pre-stressed concrete.

3. For conduits supported on surface, provide straps with holes for one or two fasteners and shaped to fit conduit size.

4. At structural steel members support raceway with hot dip galvanized beam clamps. Drilling or welding may be used only where indicated on the Drawings.

PART 3 -- EXECUTION

3.1 GENERAL

A. Install fastenings and supports as required for each type of equipment, cables and conduits, and to manufacturer's installation and NEC recommendations

B. Provide support for raceways, conduit and cables dropped vertically to equipment where there is no wall support.

C. Do not use supports of equipment installed for other trades for conduit or cable support except with permission of the Resident Engineer.

3.2 RACEWAY SUPPORTS

A. Support raceway at intervals and at locations as required by the NEC. Do not use perforated straps or plumbers tape for conduit supports. Independently support raceways from the structure.

B. Install exposed raceways on walls below grade or in damp, wet, or corrosive locations with standoff brackets providing a minimum of 1/4 inch air space between the raceway and the mounting surface.

C. Where raceway may be affected by dissimilar movements of the supporting structures or medium, provide flexible or expansion devices.

END OF SECTION

SECTION 16195 - ELECTRICAL IDENTIFICATION

PART 1 -- GENERAL

1.1 SUMMARY

A. This section describes the requirements for equipment identification tags.

B. Identify and label each raceway, piece of equipment, and conductor.

C. Develop a schedule for labels showing the legend of each as shown on the Drawings. In the absence of specific data on the Drawings, develop legends from the nature of the service or system. Arrange the schedule to produce a legible comprehensive identification system.

1.2 SUBMITTALS

A. Submit label schedule.

PART 2 -- PRODUCTS

2.1 EQUIPMENT IDENTIFICATION

A. Use Micarta black letters on a white background unless otherwise specified for a specific application. Electrical enclosure nameplates shall be a minimum of 1-1/4 inch high by 3 inches wide with 0.125 inch letters. Engrave nameplates as shown on the Drawings or as approved on the submittal.

B. Nameplates shall be fastened securely by fasteners of stainless steel, screwed into inserts, or tapped holes as required.

C. Provide labels manufactured by the Brady Identification Systems Division, Safety Sign Company, Westline Products Company, or equal.

2.2 RACEWAY IDENTIFICATION

A. Provide labels manufactured by 3M, or equal.

B. Identification tape for protection of buried electrical installation shall be a 6-inch wide red polyethylene tape imprinted “Caution – Electric Utilities Below”.

2.3 CONDUCTOR IDENTIFICATION

A. Provide wire markers that are clip sleeve or sleeve type, made of PVC, nylon, or Delrin, white in color, with black letters impressed in the material. On wire too large for the standard sleeve sizes, provide sleeve type markers inserted on a cable tie and the tie then installed around the wire.

B. Acceptable wire markers are Tyton Corporation Tygrup and Ty-Clip, Brady Clip-Sleeve,

Panduit and Omnigrip, or equal.

PART 3 -- EXECUTION

3.1 GENERAL

A. Furnish and install nameplates on all field mounted devices, equipment and instruments supplied whether mounted inside an enclosure or field mounted. Securely fasten nameplates to each device or to a conduit clamp located near the device with 16 gage stainless steel wire or nylon self-locking straps.

B. Indicate the device's name (i.e., BRM4201PI or ELLC300QA) as shown on drawings.

3.2 RACEWAY IDENTIFICATION

A. Provide factory manufactured identifying labels with colored paper, machine printed with an identifying legend laminated between two sheets of vinylite plastic formed to completely encircle the raceway. Match the sizes of the labels with the raceway on which they are to be applied. Install labels in accordance with manufacturer's instructions.

B. For legends to be used in the labels, indicate the system voltage and what it serves or type of service. The legend shall appear in a minimum of one inch high white letters on a black background for raceways 2-1/2 inch and smaller diameter and two inch high letters for raceways larger than 2-1/2 inch diameter.

C. Install identification warning tape directly above ductbank; Install warning tape 12 inches above ductbank and parallel with raceway to be protected.

3.3 EQUIPMENT IDENTIFICATION

A. All panels and devices powered from an external source shall be provided with a nameplate which indicates the power source and circuit number for the panel or device.

B. Label feeder units in panelboards, switchboards, disconnects, and motor control centers to identify the enclosure or piece of equipment and to indicate the motor device, outlet, or circuit controlled or monitored. Attach nameplates to inside surfaces with adhesive and to the outside surface with round head, self-tapping 316 stainless steel screws. Nameplates shall be two-color laminated plastic not less than 1/16 inch thick, machine engraved to show white letters not less than 1/4 inch high on a black background.

C. Type branch circuits in lighting panelboards on a card suitable for the card frame furnished with the panel. The card shall bear the panel designation listed on the Drawings where this information is given, as well as indicate what each circuit controls.

3.4 CONDUCTOR IDENTIFICATION

A. Identify power conductors terminating in panelboards, cabinets, motor control centers, and special service outlets at each end and in intervening junction and pull boxes. Where feeder conductors pass through a common box, tag the feeder to indicate the electrical characteristics, circuit number and panelboard designation. Locate labels near the conductor ends for terminals and on exposed portions of conductor within pull and junction boxes.

B. Identify control wiring and instrument power and signal wiring at each end of each wire by a number conforming with the following:

1. Base wire numbers on the instrument or equipment name shown on the Drawings, the I/O list, or stated in the Specifications. If cables are multi-conductor, number the individual wires. Where it is impractical to maintain the same wire numbers throughout, install a terminal block at the junction of the different numbered wires. On each side of the terminal block identify each associated wire number with a label either typed or written in with permanent ink.

2. Tag wires at both ends with the same notation.

C. All conduction identification numbers shall show on shop drawings.

END OF SECTION

SECTION 16421 - UTILITY SERVICE ENTRANCE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Arrangement with Utility Companies for permanent electric service.

B. Underground service entrance.

C. Metering equipment.

1.02 RELATED SECTIONS

A. Section 16110 - Raceways.

B. Section 16450 - Grounding.

1.03 REFERENCES

A. ANSI/NFPA 70 - National Electrical Code.

1.04 SYSTEM DESCRIPTION

A. System Characteristics: 120/240 volts, single phase, three-wire, 60 Hertz.

1.05 SUBMITTALS

A. Submit under provisions of the General Requirements.

B. Shop Drawings

1. The following information shall be submitted:
   a. Meter pedestal layout drawings with dimensions and nameplate designations
   b. Component list
   c. Drawings of conduit entry / exit locations
   d. Assembly ratings including:
      - Short circuit rating
      - Voltage
      - Continuous current
   e. Cable terminal sizes
   f. Descriptive bulletins
   g. Product sheets
   h. Installation information
   i. Seismic certification and equipment anchorage details

1.06 WARRANTY

A. The CONTRACTOR shall provide a written extended warranty from the Equipment Manufacturer. Equipment Manufacturer Warranties shall be for a minimum period of five years from the date of substantial completion.

1.07 QUALITY ASSURANCE

A. Perform Work in accordance with Utility Company written requirements.

B. Maintain one copy of each document on site.

1.08 REGULATORY REQUIREMENTS

A. Conform to requirements of ANSI/NFPA 70.

B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

1.09 FIELD MEASUREMENTS

A. Verify that field measurements are as indicated on Utility Company drawings.

PART 2 PRODUCTS

2.01 GENERAL

A. Locate meter pedestal such that the pull section access meets the requirements of SDG&E.

2.02 MANUFACTURERS

A. Milbank.

B. Myers.

C. Tesco

D. EATON

E. Approved equals.

2.03 METER PEDESTAL

A. Ratings: NEMA 3R enclosure, 100 amp, 120/240 volt, single phase, three wire, 42, 000 amp AIC. Provide main main circuit and a 10 circuits load center as indicated. Meter pedestal shall be service entrance equipment rated.

B. The meter pedestal shall have a meter socket with test blocks that meet the

requirements of the serving utility (San Diego Gas and Electric Company). The service cabinet shall bear a UL 508 industrial control panel label for service entrance equipment.

C. Cabinet shall be fabricated from 12-gauge hot dipped galvanized steel and shall be all welded construction. All fasteners, hinges, latches, and hardware shall be of stainless steel and hinges shall be continuous piano style. Enclosure shall be vandal resistant. There shall be no exposed, nuts, bolts, screws, rivets, or other fasteners on the exterior. Cabinet door shall have 2,000lb. Stress rated stainless steel hasp welded to cabinet and door.

D. All bussing shall be U.L. approved copper THHN cable bussing fully rated 100 amps.

E. Provide pad mount base for concrete foundation.

F. Enclosure shall have a powder coat finish in accordance with ASTM B-117. Color shall be manufacturer's standard.

G. Breakers shall be one, or two poles with ampere trip ratings as indicated. Breakers shall be quick-make and quick-break, inverse time trip characteristics, to trip free on overload or short circuit, and to indicate trip condition by the handle position.

H. All circuit breakers shall be interchangeable and capable of being operated in any position as well as being removable from the front of the panelboard without disturbing adjacent units. Plug-in circuit breakers will not be acceptable.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that service equipment is ready to be connected and energized.

3.02 PREPARATION

A. Make arrangements with Utility Companies to obtain new permanent electric service.

B. Coordinate location of Utility Companies facilities to ensure proper access is available.

3.03 INSTALLATION

A. Install service entrance conduits from Utility Companies indicated point of connection to meter pedestal per Utility Companies drawings.

END OF SECTION

SECTION 16450 - GROUNDING

PART 1 -- GENERAL

1.1 SUMMARY

A. This section describes the requirements for grounding.

1.2 SUBMITTALS

A. Manufacturer's Catalog Information for all products listed in Part 2.

B. Testing results.

PART 2 -- PRODUCTS

2.1 GROUND CONNECTIONS:

A. Water system piping clamps: Cast bronze clamps with stainless steel screws.

B. Cable lugs: Shall be wrought copper with high pressure crimp sleeve for the conductor.

C. Ground rod connections: Exothermic weld or high pressure crimp type.

D. Exothermic welds: UL approved and or listed systems with mold, weld cartridges, and weld powder specifically approved for the application.

E. Terminal lugs for shielded instrument cable: Crimp type sized to meet the specific shield requirements.

PART 3 -- EXECUTION

3.1 GENERAL

A. Install the grounding electrode system with all required components in accordance with NEC Article 250.

B. Provide and install at least one ground rod at each instrument or panel rack. The length of rods forming an individual ground array shall be equal in length and shall be of the quantity required to obtain a ground resistance of less than 5 ohms.

C. Unless otherwise specified, ground all non-current carrying metallic parts of electrical equipment, support structures, raceway systems, and the neutral of all wiring systems in accordance with the NEC and other applicable codes and with the manufacturer's recommendations.

D. All grounds and ground systems shall be bonded together.

E. Grounding system may be bonded to buried metal piping not less than 2-inch diameter or provide grounding rod driven a minimum of nine feet in the ground. The ground clamp connection to the metal pipe shall be not more than one foot inside the building. Ground conductor for connection to ground rod shall be stranded copper and connected by the exothermic welding process. Earth buried ground conductors shall not be insulated. File or sand surfaces before connecting ground to ensure effectvie metal to metal contact.

F. Bond the grounding conductors to metallic enclosures at each end and to all intermediate metallic enclosures. Where equipment contains a ground bus, extend and connect grounding conductors to that bus. Run ground conductors inside conduits enclosing the power conductors.

G. Make connections of grounding conductors to circuits 20 amps or above by a solderless terminal and a 5/16 minimum bolt tapped to the motor frame or equipment housing. Ground connections to smaller equipment may be made by fastening the terminal to a connection box. Connect junction boxes to the equipment grounding system with grounding clips mounted directly on the box or with 3/8-inch machine screws. Remove all paint, dirt, or other surface coverings at grounding conductor connection points so that good metal to metal contact is made.

3.2 PANEL AND ENCLOSURE GROUNDING

A. Bond panels and enclosures to building grounds.

B. Provide new ground rod where ground cable routed with conduit is not bonded to earth ground within 50 feet. Bond equipment-grounding conductors to earth ground through the panel.

C. Provide isolated tin coated grounding bus for signal and shield ground connections (Instrument Earth). Do not exceed one wire per busbar connection.

D. Provide non-isolated tin coated grounding bus for equipment grounds (protective earth). Do not exceed one wire per busbar connection.

3.3 INSTRUMENT SIGNAL SHIELD GROUNDS

A. Ground instrument signal shields at one location only.

B. Termination of each shield drain wire shall be on its own terminal screw. All the terminal screws in one rack or panel shall be provided with No. 16 solid tinned bare copper wire jumper, connection to ground shall be accomplished with a No. 12 green insulated conductor to the main ground bus

C. As a general rule, ground shields at control panels. If no panel is nearby, ground shields at the instrument power source. If a signal passes through several panels, ground at the panel with the most loops.

D. At the ungrounded end, trim back and insulate shield.

E. If a signal passes through a junction box or barrier strip, maintain shield continuity.

3.4 TESTING

A. All tests shall be performed in the presence of the Resident Engineer.

B. Perform a thorough visual and mechanical inspection to ensure all items are in place and connected with all termination made in an approved manner.

C. Test shall be performed in accordance with test instrument manufacturer's recommendations using fall-of-potential method. Measure ground resistance in normally dry conditions, and not less than 48 hours after rain fall.

D. Grounding test shall comply with IEEE Standard 81. A plot of ground resistance reading shall be submitted.

END OF SECTION

SECTION16950 - ELECTRICAL TESTS

PART 1 -- GENERAL

1.1 WORK OF THIS SECTION

A. The CONTRACTOR shall test, commission, and demonstrate that the electrical work satisfies the criteria of these Specifications and functions as required by the Contract Documents.

1.2 GENERAL

A. The Work of this Section includes furnishing the labor, equipment and power required to support the testing in other Divisions of these Specifications. This scope may require the CONTRACTOR to activate circuits, shutdown circuits, run equipment, make electrical measurements, replace blown fuses, and install temporary jumpers.

1.3 RELATED SECTIONS

A. The Work of the following Sections applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

1. Section 16010 - Basic Electrical Requirements

1.4 CODES

A. The Work of this Section shall comply with the current editions of the National Electrical Code as adopted by the City of San Diego.

1.5 STANDARDS

A. Except as otherwise indicated, the current editions of the following apply to the Work of this Section:

1. NETA National Electrical Testing Association

2. ICEA Insulated Cable Engineers Association

1.6 TESTING

A. The following test requirements are intended to supplement test and acceptance criteria that may be stated elsewhere.

1. Test ground interrupter (GFI) receptacles and circuit breakers for proper operation by methods sanctioned by the receptacle manufacturer.

2. A functional test and check of all electrical components are required prior to performing subsystem testing and commissioning. Compartments and equipment shall be cleaned as required by other provisions of these Specifications before commencement of functional testing. Functional testing shall comprise:
   a. Visual and physical check of cables and connections associated with all new

and modified equipment.

3. Complete ground testing of all grounding electrodes prior to operating the equipment.

B. Subsystem testing shall occur after the proper operation of alarm and status contacts has been demonstrated or otherwise accepted by the Resident Engineer and after process control devices have been adjusted as accurately as possible. It is intended that the CONTRACTOR will adjust limit switches and flow indicating transmitters to their operating points prior to testing.

C. Provide ground resistance tests in the presence of the Resident Engineer and submit results. Use a ground resistance meggar "Earth" tester with a maximum of 0-50 scale. Use the fall of potential method as described by Biddle or NETA.

D. General: Carry out tests for individual items of materials and equipment indicated in other Sections.

1.7 COMMISSIONING

A. Commissioning shall not be attempted until all subsystems have been found to operate satisfactorily; commissioning shall only be attempted as a function of normal plant operation in which plant process flows and levels are routine, and equipment operates automatically in response to flow and level parameters or computer command, as applicable. Simulation of process parameters will be considered only upon receipt of a written request.

PART 2 -- PRODUCTS (Not Used)

PART 3 -- EXECUTION (Not Used)

** END OF SECTION **

SUPPLEMENTARY SPECIAL PROVISIONS

APPENDICES

APPENDIX A

ADDENDUM TO MITIGATED NEGATIVE DECLARATION

THE CITY OF SAN DIEGO

ADDENDUM TO
MITIGATED NEGATIVE DECLARATION No. 255100

SCH No. 2011091045
Project No. 578855/WBS No. B-12048.02.01

SUBJECT Water and Sewer Group Job 965

I. PROJECT DESCRIPTION:

Applicant: City of San Diego Public Engineering and Capital Projects Department, Right of Way Division

Project Location

The Water and Sewer Group 965 project is located within the Torrey Pines Community Planning Area (Council District 1). The project site is situated west of Interstate 5 and will impact Sorrento Valley Road, Tripp Court, and Industrial Court (see attached project map). All work would be located within the City's right-of–way.

Project Description

Originally, the proposed scope of work included replace-in-place existing water and sewer mains without disturbing any previously disturbed soils and received environmental approval in the form of a CEQA exemption. However, during construction, it was deemed that the project requires new trenching. The proposed project includes replacement and installation of approximately 10,079 linear feet (LF) of water mains and sewer mains. Approximately 4,972 LF of existing 1-inch copper bypass, 8-in, 10-in, 1-in, and 16-in Cast Iron, Cast Iron Cement Lined and Asbestos Cement water main, with new 12-in and 16-in polyvinyl chloride (PVC) water mains and replace-in-place approximately 5,107 LF of 8-in, 10-in, and 12-in vitrified clay (VC) sewer main. The replacement of these mains will require the open trench method of placement, which will require excavation to a depth of 5 feet for water and up to 12 feet for sewer, all soils have been previously disturbed except soil along 2,460 LF of new sewer main.

The project includes the construction of an above ground pressure reducing station (PRS) with the approximate vault size of 7 feet wide, 10 feet long, and 5 feet tall. Installation of the PRS will require removal of ornamental plants and buses, and excavation up to 18-inches deep in possibly undisturbed soil. The project may also include the following improvements: ADA compliant curb ramps, replumbing of water services and sewer laterals, installation of fire hydrants, street resurfacing, and any necessary lane painting. All construction staging would occur in the public right-of -way.

The Water and Sewer Group 965 project is part of the City of San Diego's on-going Sewer Main and Water Main Replacement Program. The existing sewer and water mains are old, and are nearing the

end of their service life. Construction of the project will reduce maintenance requirements, correct hydraulic deficiencies, improve reliability and accessibility, and bring the sewer and water main systems up to current design standards.

The project would comply with the requirements described in the *Standard Specifications for Public Works Construction*, and California Department of Transportation's *Manual of Traffic Controls for Construction and Maintenance Work Zones*. A traffic controls plan would be prepared and implemented in accordance with the *City of San Diego Standard Drawings Manual of Traffic Control for Construction and Maintenance Work Zones*. Best Management Practices will be required and specified within the approved Water Pollution Control Plan for erosion control and storm drain inlet protection.

II. ENVIRONMENTAL SETTING: The Water and Sewer Group 965 project would occur within the developed public right-of-way within the City of San Diego described above under Project Location. Surrounding land uses include industrial, and commercial development areas. See attached MND for the environmental setting for the overall Citywide Pipeline Projects.

III. PROJECT BACKGROUND: A Citywide Pipelines Projects Mitigated Negative Declaration (MND) No. 255100 was prepared by the City of San Diego's Development Services Department (DSD) and was certified by the City Council on November 30, 2011 (Resolution No. 307122). The Citywide Pipelines Projects MND provides for the inclusion of subsequent pipeline projects that are located within the public right-of-way and would not result in any direct impacts to sensitive biological resources. Pursuant to the City of San Diego's Municipal Code Section 128.0306 and Section 15164(c) of State CEQA Guidelines addenda to environmental documents are not required to be circulated for public review.

Archaeological Resources

The Citywide Pipelines Project MND No. 255100 concluded that pipeline projects located within the public right-of-way and city easements could result in significant environmental impacts relating to archaeological resources, which included mitigation to reduce impacts to archaeological resources to below a level of significance. Portions of the project area identified with the Water and Sewer Group 965 project would include excavation of previously undisturbed soil which has the potential to contain sensitive archaeological resources.

To reduce potential archaeological resource impacts to below a level of significance, excavation within previously undisturbed soil, for either new trench alignments or for replacement of pipelines within the same trench alignment occurring at a deeper depth than the previously existing pipeline, would be monitored by a qualified archaeologist or archaeological monitor and Native American monitor. Any significant archaeological resources encountered would be recovered and curated in accordance with the mitigation monitoring and Reporting Program (MMRP) detailed in Section V.

Land Use (MHPA Adjacency)

This project proposes work located within the existing, developed public right-of -way. Several portions of the project are located within 100 feet of the MHPA. Those portions of the project will, therefore, be subject to the MHPA land use adjacency mitigation requirements specified under AMND Section V.

Paleontological Resources

The Citywide Pipelines Project MND No. 255100 analyzed paleontological resources in relation to pipeline projects, which included mitigation to reduce impacts to paleontological resources to below a level of significance. The project area is partially underlain by geologic formations that, with respect to paleontological fossil resource potential, are assigned a high sensitivity rating. Based on the sensitivity of the affected formations and proposed 12-foot excavation depths, construction of Water and Sewer Group 965 could result in potentially significant impacts to fossil resources.

To reduce potential impacts to below a level of significance, excavation within previously undisturbed formations at a depth of 10 or more feet, for either new trench alignments and/or for replacement of pipelines within the same trench alignment occurring at a deeper depth than the previously existing pipeline, would be monitored by a qualified paleontologist or paleontological monitor. Any significant paleontological resources encountered would be recovered and curated in accordance with the mitigation monitoring and Reporting Program (MMRP) detailed in Section V.

IV. DETERMINATION:

The City of San Diego previously prepared Mitigated Negative Declaration No. 255100 for the project described in the attached MND.

Based upon a review of the current project, it has been determined that:

a. There are no new significant environmental impacts not considered in the previous MND;
b. No substantial changes have occurred with respect to the circumstances under which the project is undertaken; and
c. There is no new information of substantial importance to the project.

Therefore, in accordance with Section 15164 of the State CEQA Guidelines this addendum has been prepared. No public review of this addendum is required.

V. MITIGATION, MONITORING AND REPORTING PROGRAM INCORPORATED INTO THE PROJECT:

Historical Resources (Archaeology)

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 (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 Archaeological Monitor shall direct the contractor to temporarily divert all soil disturbing activities, including but not limited to digging, trenching, excavating or grading activities in the area of discovery and in the area reasonably suspected to overlay adjacent resources and immediately notify the RE or BI, as appropriate.
2. The Monitor shall immediately notify the PI (unless Monitor is the PI) of the discovery.

3. The PI shall immediately notify MMC by phone of the discovery, and shall also submit written documentation to MMC within 24 hours by fax or email with photos of the resource in context, if possible.
4. No soil shall be exported off-site until a determination can be made regarding the significance of the resource specifically if Native American resources are encountered.

C. Determination of Significance
1. The PI and Native American consultant/monitor, where Native American resources are discovered shall evaluate the significance of the resource. If Human Remains are involved, follow protocol in Section IV below.
   a. The PI shall immediately notify MMC by phone to discuss significance determination and shall also submit a letter to MMC indicating whether additional mitigation is required.
   b. If the resource is significant, the PI shall submit an Archaeological Data Recovery Program (ADRP) and obtain written approval of the program from MMC, CM and RE. ADRP and any mitigation must be approved by MMC, RE and/or CM before ground disturbing activities in the area of discovery will be allowed to resume. Note: If a unique archaeological site is also an historical resource as defined in CEQA Section 15064.5, then the limits on the amount(s) that a project applicant may be required to pay to cover mitigation costs as indicated in CEQA Section 21083.2 shall not apply.
      (1). Note: For pipeline trenching and other linear projects in the public Right-of-Way, the PI shall implement the Discovery Process for Pipeline Trenching projects identified below under "D."
   c. If the resource is not significant, the PI shall submit a letter to MMC indicating that artifacts will be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that that no further work is required.
      (1). Note: For Pipeline Trenching and other linear projects in the public Right-of-Way, if the deposit is limited in size, both in length and depth; the information value is limited and is not associated with any other resource; and there are no unique features/artifacts associated with the deposit, the discovery should be considered not significant.
      (2). Note, for Pipeline Trenching and other linear projects in the public Right-of-Way, if significance cannot be determined, the Final Monitoring Report and Site Record (DPR Form 523A/B) shall identify the discovery as Potentially Significant.

D. Discovery Process for Significant Resources - Pipeline Trenching and other Linear Projects in the Public Right-of-Way.

The following procedure constitutes adequate mitigation of a significant discovery encountered during pipeline trenching activities or for other linear project types within the Public Right-of-Way including but not limited to excavation for jacking pits, receiving pits, laterals, and manholes to reduce impacts to below a level of significance:

1. Procedures for documentation, curation and reporting

a. One hundred percent of the artifacts within the trench alignment and width shall be documented in-situ, to include photographic records, plan view of the trench and profiles of side walls, recovered, photographed after cleaning and analyzed and curated. The remainder of the deposit within the limits of excavation (trench walls) shall be left intact.
b. The PI shall prepare a Draft Monitoring Report and submit to MMC via the RE as indicated in Section VI-A.
c. The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) the resource(s) encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines. The DPR forms shall be submitted to the South Coastal Information Center for either a Primary Record or SDI Number and included in the Final Monitoring Report.
d. The Final Monitoring Report shall include a recommendation for monitoring of any future work in the vicinity of the resource.

IV. Discovery of Human Remains

If human remains are discovered, work shall halt in that area and no soil shall be exported off-site until a determination can be made regarding the provenance of the human remains; and the following procedures as set forth in CEQA Section 15064.5(e), the California Public Resources Code (Sec. 5097.98) and State Health and Safety Code (Sec. 7050.5) shall be undertaken:

A. Notification
1. Archaeological Monitor shall notify the RE or BI as appropriate, MMC, and the PI, if the Monitor is not qualified as a PI. MMC will notify the appropriate Senior Planner in the Environmental Analysis Section (EAS) of the Development Services Department to assist with the discovery notification process.
2. The PI shall notify the Medical Examiner after consultation with the RE, either in person or via telephone.

B. Isolate discovery site
1. Work shall be directed away from the location of the discovery and any nearby area reasonably suspected to overlay adjacent human remains until a determination can be made by the Medical Examiner in consultation with the PI concerning the provenience of the remains.
2. The Medical Examiner, in consultation with the PI, will determine the need for a field examination to determine the provenience.
3. If a field examination is not warranted, the Medical Examiner will determine with input from the PI, if the remains are or are most likely to be of Native American origin.

C. If Human Remains **ARE** determined to be Native American
1. The Medical Examiner will notify the Native American Heritage Commission (NAHC) within 24 hours. By law, **ONLY** the Medical Examiner can make this call.
2. NAHC will immediately identify the person or persons determined to be the Most Likely Descendent (MLD) and provide contact information.
3. The MLD will contact the PI within 24 hours or sooner after the Medical Examiner has completed coordination, to begin the consultation process in accordance with CEQA Section 15064.5(e), the California Public Resources and Health & Safety Codes.

4. The MLD will have 48 hours to make recommendations to the property owner or representative, for the treatment or disposition with proper dignity, of the human remains and associated grave goods.
5. Disposition of Native American Human Remains will be determined between the MLD and the PI, and, if:
   a. The NAHC is unable to identify the MLD, OR the MLD failed to make a recommendation within 48 hours after being notified by the Commission, OR;
   b. The landowner or authorized representative rejects the recommendation of the MLD and mediation in accordance with PRC 5097.94 (k) by the NAHC fails to provide measures acceptable to the landowner, THEN
   c. To protect these sites, the landowner shall do one or more of the following:
      (1) Record the site with the NAHC;
      (2) Record an open space or conservation easement; or
      (3) Record a document with the County.
   d. Upon the discovery of multiple Native American human remains during a ground disturbing land development activity, the landowner may agree that additional conferral with descendants is necessary to consider culturally appropriate treatment of multiple Native American human remains. Culturally appropriate treatment of such a discovery may be ascertained from review of the site utilizing cultural and archaeological standards. Where the parties are unable to agree on the appropriate treatment measures the human remains and items associated and buried with Native American human remains shall be reinterred with appropriate dignity, pursuant to Section 5.c., above.

D. If Human Remains are **NOT** Native American
1. The PI shall contact the Medical Examiner and notify them of the historic era context of the burial.
2. The Medical Examiner will determine the appropriate course of action with the PI and City staff (PRC 5097.98).
3. If the remains are of historic origin, they shall be appropriately removed and conveyed to the San Diego Museum of Man for analysis. The decision for internment of the human remains shall be made in consultation with MMC, EAS, the applicant/landowner, any known descendant group, and the San Diego Museum of Man.

V. Night and/or Weekend Work

A. If night and/or weekend work is included in the contract
1. When night and/or weekend work is included in the contract package, the extent and timing shall be presented and discussed at the precon meeting.
2. The following procedures shall be followed.
   a. No Discoveries
      In the event that no discoveries were encountered during night and/or weekend work, the PI shall record the information on the CSVR and submit to MMC via fax by 8AM of the next business day.
   b. Discoveries
      All discoveries shall be processed and documented using the existing procedures detailed in Sections III - During Construction, and IV – Discovery of Human Remains. Discovery of human remains shall always be treated as a significant discovery.

c. Potentially Significant Discoveries
If the PI determines that a potentially significant discovery has been made, the procedures detailed under Section III - During Construction and IV-Discovery of Human Remains shall be followed.

d. The PI shall immediately contact the RE and MMC, or by 8AM of the next business day to report and discuss the findings as indicated in Section III-B, unless other specific arrangements have been made.

B. If night and/or weekend work becomes necessary during the course of construction
1. The Construction Manager shall notify the RE, or BI, as appropriate, a minimum of 24 hours before the work is to begin.
2. The RE, or BI, as appropriate, shall notify MMC immediately.

C. All other procedures described above shall apply, as appropriate.

VI. Post Construction

A. Submittal of Draft Monitoring Report
1. The PI shall submit two copies of the Draft Monitoring Report (even if negative), prepared in accordance with the Historical Resources Guidelines (Appendix C/D) which describes the results, analysis, and conclusions of all phases of the Archaeological Monitoring Program (with appropriate graphics) to MMC via the RE for review and approval within 90 days following the completion of monitoring. It should be noted that if the PI is unable to submit the Draft Monitoring Report within the allotted 90-day timeframe as a result of delays with analysis, special study results or other complex issues, a schedule shall be submitted to MMC establishing agreed due dates and the provision for submittal of monthly status reports until this measure can be met.
a. For significant archaeological resources encountered during monitoring, the Archaeological Data Recovery Program or Pipeline Trenching Discovery Process shall be included in the Draft Monitoring Report.
b. Recording Sites with State of California Department of Parks and Recreation
The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) any significant or potentially significant resources encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines, and submittal of such forms to the South Coastal Information Center with the Final Monitoring Report.
2. MMC shall return the Draft Monitoring Report to the PI via the RE for revision or, for preparation of the Final Report.
3. The PI shall submit revised Draft Monitoring Report to MMC via the RE for approval.
4. MMC shall provide written verification to the PI of the approved report.
5. MMC shall notify the RE or BI, as appropriate, of receipt of all Draft Monitoring Report submittals and approvals.

B. Handling of Artifacts
1. The PI shall be responsible for ensuring that all cultural remains collected are cleaned and catalogued
2. The PI shall be responsible for ensuring that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; and that specialty studies are completed, as appropriate.

C. Curation of artifacts: Accession Agreement and Acceptance Verification
   1. The PI shall be responsible for ensuring that all artifacts associated with the survey, testing and/or data recovery for this project are permanently curated with an appropriate institution. This shall be completed in consultation with MMC and the Native American representative, as applicable.
   2. When applicable to the situation, the PI shall include written verification from the Native American consultant/monitor indicating that Native American resources were treated in accordance with state law and/or applicable agreements. If the resources were reinterred, verification shall be provided to show what protective measures were taken to ensure no further disturbance occurs in accordance with Section IV – Discovery of Human Remains, Subsection C.
   3. The PI shall submit the Accession Agreement and catalogue record(s) to the RE or BI, as appropriate for donor signature with a copy submitted to MMC.
   4. The RE or BI, as appropriate shall obtain signature on the Accession Agreement and shall return to PI with copy submitted to MMC.
   5. The PI shall include the Acceptance Verification from the curation institution in the Final Monitoring Report submitted to the RE or BI and MMC.

D. Final Monitoring Report(s)
   1. The PI shall submit one copy of the approved Final Monitoring Report to the RE or BI as appropriate, and one copy to MMC (even if negative), within 90 days after notification from MMC of the approved report.
   2. The RE shall, in no case, issue the Notice of Completion until receiving a copy of the approved Final Monitoring Report from MMC which includes the Acceptance Verification from the curation institution.

Land Use [Multiple Species Conservation Program (MSCP) For Projects within 100 feet of the MHPA]

I. **Prior to issuance of any construction permit or notice to proceed,** DSD/ LDR, and/or MSCP staff shall verify the Applicant has accurately represented the project's design in or on the Construction Documents (CD's/CD's consist of Construction Plan Sets for Private Projects and Contract Specifications for Public Projects) are in conformance with the associated discretionary permit conditions and Exhibit "A", and also the City's Multi-Species Conservation Program (MSCP) Multi-Habitat Planning Area (MHPA) Land Use Adjacency Guidelines. The applicant shall provide an implementing plan and include references on/in CD's of the following:

1. **Grading/Land Development/MHPA Boundaries** - MHPA boundaries on-site and adjacent properties shall be delineated on the CDs. DSD Planning and/or MSCP staff shall ensure that all grading is included within the development footprint, specifically manufactured slopes, disturbance, and development within or adjacent to the MHPA. For projects within or adjacent to the MHPA, all manufactured slopes associated with site development shall be included within the development footprint.

2. **Drainage** - All new and proposed parking lots and developed areas in and adjacent

to the MHPA shall be designed so they do not drain directly into the MHPA. All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials prior to release by incorporating the use of filtration devices, planted swales and/or planted detention/ desiltation basins, or other approved permanent methods that are designed to minimize negative impacts, such as excessive water and toxins into the ecosystems of the MHPA.

3. **Toxics/Project Staging Areas/Equipment Storage** - Projects that use chemicals or generate by-products such as pesticides, herbicides, and animal waste, and other substances that are potentially toxic or impactive to native habitats/flora/fauna (including water) shall incorporate measures to reduce impacts caused by the application and/or drainage of such materials into the MHPA. No trash, oil, parking, or other construction/development-related material/activities shall be allowed outside any approved construction limits. Where applicable, this requirement shall incorporated into leases on publicly-owned property when applications for renewal occur. Provide a note in/on the CD's that states: "All construction related activity that may have potential for leakage or intrusion shall be monitored by the Qualified Biologist/Owners Representative or Resident Engineer to ensure there is no impact to the MHPA."

4. **Lighting** - Lighting within or adjacent to the MHPA shall be directed away/shielded from the MHPA and be subject to City Outdoor Lighting Regulations per LDC Section 142.0740.

5. **Barriers** - New development within or adjacent to the MHPA shall be required to provide barriers (e.g., non-invasive vegetation; rocks/boulders; 6-foot high, vinyl-coated chain link or equivalent fences/walls; and/or signage) along the MHPA boundaries to direct public access to appropriate locations, reduce domestic animal predation, protect wildlife in the preserve, and provide adequate noise reduction where needed.

6. **Invasives-** No invasive non-native plant species shall be introduced into areas within or adjacent to the MHPA.

7. **Noise -** Due to the site's location adjacent to or within the MHPA where the Qualified Biologist has identified potential nesting habitat for listed avian species, construction noise that exceeds the maximum levels allowed shall be avoided during the breeding seasons for the following: California Gnatcatcher (3/1-8/15). If construction is proposed during the breeding season for the species, U.S. Fish and Wildlife Service protocol surveys shall be required in order to determine species presence/absence. If protocol surveys are not conducted in suitable habitat during the breeding season for the aforementioned listed species, presence shall be assumed with implementation of noise attenuation and biological monitoring.

When applicable (i.e., habitat is occupied or if presence of the covered species is assumed), adequate noise reduction measures shall be incorporated as follows:

COASTAL CALIFORNIA GNATCATCHER (Federally Threatened)

1. Prior to the preconstruction meeting, the City Manager (or appointed designee) shall verify that the Multi-Habitat Planning Area (MHPA) boundaries and the following project requirements regarding the coastal California gnatcatcher are shown on the construction plans:

NO CLEARING, GRUBBING, GRADING, OR OTHER CONSTRUCTION ACTIVITIES SHALL OCCUR BETWEEN MARCH 1 AND AUGUST 15, THE BREEDING SEASON OF THE COASTAL CALIFORNIA GNATCATCHER, UNTIL THE FOLLOWING REQUIREMENTS HAVE BEEN MET TO THE SATISFACTION OF THE CITY MANAGER:

A. A QUALIFIED BIOLOGIST (POSSESSING A VALID ENDANGERED SPECIES ACT SECTION 10(a)(1)(A) RECOVERY PERMIT) SHALL SURVEY THOSE HABITAT AREAS WITHIN THE MHPA THAT WOULD BE SUBJECT TO CONSTRUCTION NOISE LEVELS EXCEEDING 60 DECIBELS [dB(A)] HOURLY AVERAGE FOR THE PRESENCE OF THE COASTAL CALIFORNIA GNATCATCHER. SURVEYS FOR THE COASTAL CALIFORNIA GNATCATCHER SHALL BE CONDUCTED PURSUANT TO THE PROTOCOL SURVEY GUIDELINES ESTABLISHED BY THE U.S. FISH AND WILDLIFE SERVICE WITHIN THE BREEDING SEASON PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. IF GNATCATCHERS ARE PRESENT, THEN THE FOLLOWING CONDITIONS MUST BE MET:

I. BETWEEN MARCH 1 AND AUGUST 15, NO CLEARING, GRUBBING, OR GRADING OF OCCUPIED GNATCATCHER HABITAT SHALL BE PERMITTED. AREAS RESTRICTED FROM SUCH ACTIVITIES SHALL BE STAKED OR FENCED UNDER THE SUPERVISION OF A QUALIFIED BIOLOGIST; AND

II. BETWEEN MARCH 1 AND AUGUST 15, NO CONSTRUCTION ACTIVITIES SHALL OCCUR WITHIN ANY PORTION OF THE SITE WHERE CONSTRUCTION ACTIVITIES WOULD RESULT IN NOISE LEVELS EXCEEDING 60 dB (A) HOURLY AVERAGE AT THE EDGE OF OCCUPIED GNATCATCHER HABITAT. AN ANALYSIS SHOWING THAT NOISE GENERATED BY CONSTRUCTION ACTIVITIES WOULD NOT EXCEED 60 dB (A) HOURLY AVERAGE AT THE EDGE OF OCCUPIED HABITAT MUST BE COMPLETED BY A QUALIFIED ACOUSTICIAN (POSSESSING CURRENT NOISE ENGINEER LICENSE OR REGISTRATION WITH MONITORING NOISE LEVEL EXPERIENCE WITH LISTED ANIMAL SPECIES) AND APPROVED BY THE CITY MANAGER AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES DURING THE BREEDING SEASON, AREAS RESTRICTED FROM SUCH ACTIVITIES SHALL BE STAKED OR FENCED UNDER THE SUPERVISION OF A QUALIFIED BIOLOGIST; OR

III. AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES, UNDER THE DIRECTION OF A QUALIFIED ACOUSTICIAN, NOISE ATTENUATION MEASURES (e.g., BERMS, WALLS) SHALL BE IMPLEMENTED TO ENSURE THAT NOISE LEVELS RESULTING FROM CONSTRUCTION ACTIVITIES

WILL NOT EXCEED 60 dB(A) HOURLY AVERAGE AT THE EDGE OF HABITAT OCCUPIED BY THE COASTAL CALIFORNIA GNATCATCHER. CONCURRENT WITH THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES AND THE CONSTRUCTION OF NECESSARY NOISE ATTENUATION FACILITIES, NOISE MONITORING* SHALL BE CONDUCTED AT THE EDGE OF THE OCCUPIED HABITAT AREA TO ENSURE THAT NOISE LEVELS DO NOT EXCEED 60 dB (A) HOURLY AVERAGE. IF THE NOISE ATTENUATION TECHNIQUES IMPLEMENTED ARE DETERMINED TO BE INADEQUATE BY THE QUALIFIED ACOUSTICIAN OR BIOLOGIST, THEN THE ASSOCIATED CONSTRUCTION ACTIVITIES SHALL CEASE UNTIL SUCH TIME THAT ADEQUATE NOISE ATTENUATION IS ACHIEVED OR UNTIL THE END OF THE BREEDING SEASON (AUGUST 16).

* Construction noise monitoring shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the construction activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dB (A) hourly average or to the ambient noise level if it already exceeds 60 dB (A) hourly average. If not, other measures shall be implemented in consultation with the biologist and the City Manager, as necessary, to reduce noise levels to below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. Such measures may include, but are not limited to, limitations on the placement of construction equipment and the simultaneous use of equipment.

B. IF COASTAL CALIFORNIA GNATCATCHERS ARE NOT DETECTED DURING THE PROTOCOL SURVEY, THE QUALIFIED BIOLOGIST SHALL SUBMIT SUBSTANTIAL EVIDENCE TO THE CITY MANAGER AND APPLICABLE RESOURCE AGENCIES WHICH DEMONSTRATES WHETHER OR NOT MITIGATION MEASURES SUCH AS NOISE WALLS ARE NECESSARY BETWEEN MARCH 1 AND AUGUST 15 AS FOLLOWS:

I. IF THIS EVIDENCE INDICATES THE POTENTIAL IS HIGH FOR COASTAL CALIFORNIA GNATCATCHER TO BE PRESENT BASED ON HISTORICAL RECORDS OR SITE CONDITIONS, THEN CONDITION A.III SHALL BE ADHERED TO AS SPECIFIED ABOVE.

II. IF THIS EVIDENCE CONCLUDES THAT NO IMPACTS TO THIS SPECIES ARE ANTICIPATED, NO MITIGATION MEASURES WOULD BE NECESSARY.

II. Prior to Start of Construction

A. Preconstruction Meeting

The Qualified Biologist/Owner's Representative shall incorporate all MHPA construction related requirements, into the project's Biological Monitoring Exhibit (BME). The Qualified Biologist/Owner's Representative is responsible to arrange and perform a focused pre-con with all contractors, subcontractors, and all workers involved in grading or other construction activities that discusses the sensitive nature of the adjacent sensitive biological resources.

III. **During Construction.**

The Qualified Biologist/Owner's Representative, shall verify that all construction related activities taking place adjacent to the MHPA are consistent with the CDs, the Representative shall monitor and assure that:

1. **Grading/Land Development/MHPA Boundaries** - MHPA boundaries on-site and adjacent properties shall be delineated on the CDs. DSD Planning and/or MSCP staff shall ensure that all grading is included within the development footprint, specifically manufactured slopes, disturbance, and development within or adjacent to the MHPA. For projects within or adjacent to the MHPA, all manufactured slopes associated with site development shall be included within the development footprint.

2. **Drainage** - All new and proposed parking lots and developed areas in and adjacent to the MHPA shall be designed so they do not drain directly into the MHPA. All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials prior to release by incorporating the use of filtration devices, planted swales and/or planted detention/ desiltation basins, or other approved permanent methods that are designed to minimize negative impacts, such as excessive water and toxins into the ecosystems of the MHPA.

3. **Toxics/Project Staging Areas/Equipment Storage** - Projects that use chemicals or generate by-products such as pesticides, herbicides, and animal waste, and other substances that are potentially toxic or impactive to native habitats/flora/fauna (including water) shall incorporate measures to reduce impacts caused by the application and/or drainage of such materials into the MHPA. No trash, oil, parking, or other construction/development-related material/activities shall be allowed outside any approved construction limits. Where applicable, this requirement shall incorporated into leases on publicly-owned property when applications for renewal occur. Provide a note in/on the CD's that states: "All construction related activity that may have potential for leakage or intrusion shall be monitored by the Qualified Biologist/Owners Representative or Resident Engineer to ensure there is no impact to the MHPA."

4. **Lighting** - Lighting within or adjacent to the MHPA shall be directed away/shielded from the MHPA and be subject to City Outdoor Lighting Regulations per LDC Section 142.0740.

5. **Barriers** - New development within or adjacent to the MHPA shall be required to provide barriers (e.g., non-invasive vegetation; rocks/boulders; 6-foot high, vinyl-coated chain link or equivalent fences/walls; and/or signage) along the MHPA boundaries to direct public access to appropriate locations, reduce domestic animal predation, protect wildlife in the preserve, and provide adequate noise reduction where needed.

6. **Invasives** - No invasive non-native plant species shall be introduced into areas within or adjacent to the MHPA.

7. **Noise** - Due to the site's location adjacent to or within the MHPA where the Qualified Biologist has identified potential nesting habitat for listed avian species, construction noise that exceeds the maximum levels allowed shall be avoided during the breeding seasons for the following: California Gnatcatcher (3/1-8/15). If construction is proposed during the breeding season for the species, U.S. Fish and Wildlife Service protocol surveys shall be required in order to determine species presence/absence. If protocol surveys are not conducted in suitable habitat during the breeding season for the aforementioned listed species, presence shall be assumed with implementation of noise attenuation and biological monitoring.

IV. Post Construction

Preparation and Submittal of Monitoring Report. The Qualified Biologist/Owners Representative shall submit a final biological monitoring report to the RE/MMC within 30 days of the completion of construction that requires monitoring. The report shall incorporate the results of the MMRP/MSCP requirements per the construction documents and the BME to the satisfaction of the RE/MMC.

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.

Mark Brunette, Senior Planner
Development Services Department

November13, 2017
Date

Analyst: Jessica Madamba, Junior Planner

Attachments: Location Maps
Mitigated Negative Declaration No. 255100

The Addendum to Mitigated Negative Declaration No. 255100 was not circulated for public review pursuant to San Diego Municipal Code (SDMC) Chapter 6, Article 9, Paragraph 69.0211 (Addenda to Environmental Reports). The final Addendum was distributed to the following City of San Diego staff members for informational purposes in accordance with CEQA Section 15164.

DISTRIBUTION:

City of San Diego
Development Services
Peter Kann, Development Project Manager
Jessica Madamba, Environmental Analyst
Sam Johnson, MMC

Public Works
Santiago Crespo, Associate Engineer
Peter Fogec, Associate Planner

Copies of the addendum, the final MND, the Mitigation Monitoring and Reporting Program, and any technical appendices may be reviewed in the office of the Entitlements Division of the Development Services Department, or purchased for the cost of reproduction.

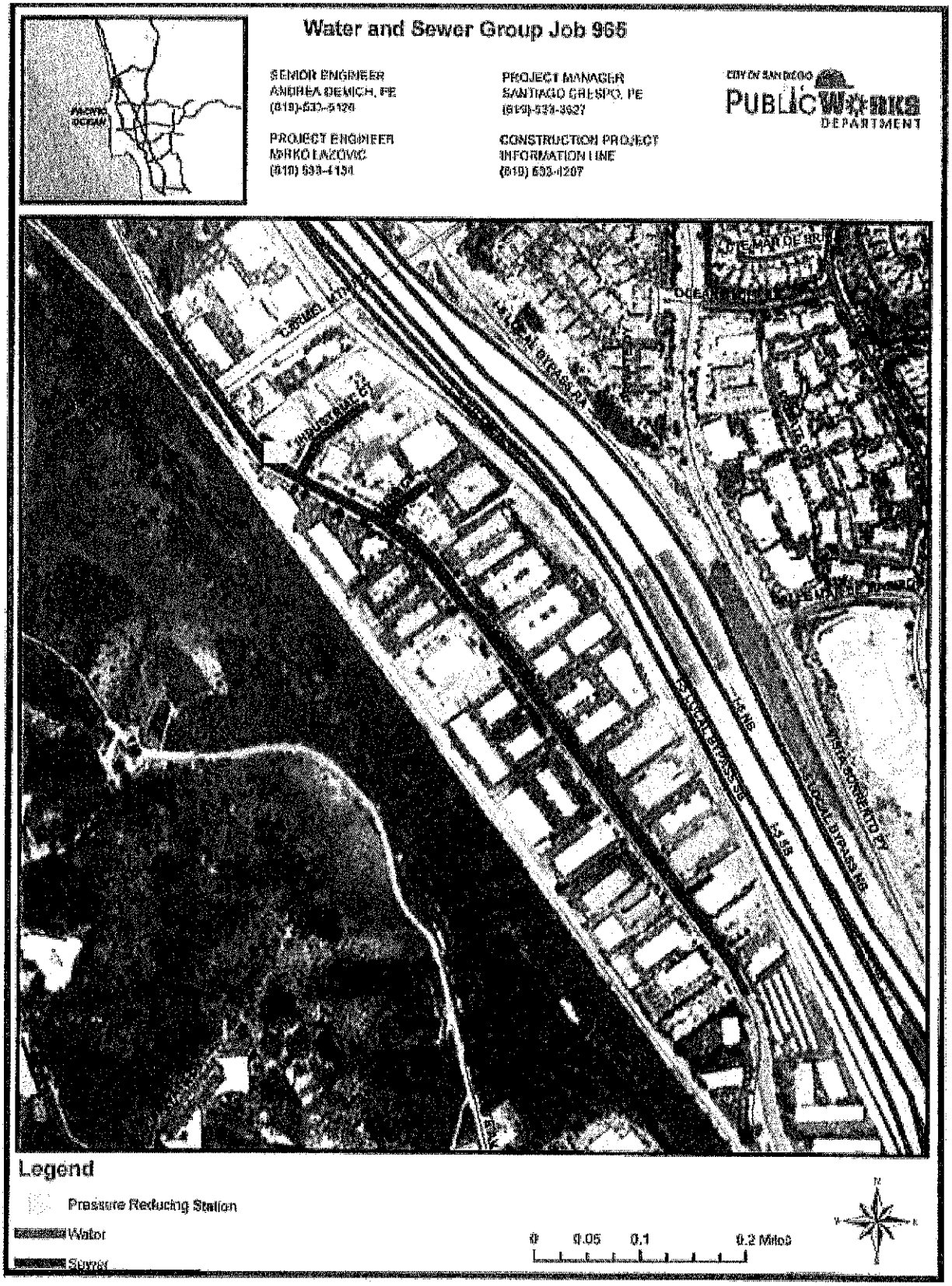


Figure 1: Location Map

Water and Sewer Group Job 965 Project No. 578855

City of San Diego – Development Services Department

City of San Diego
Development Services

ENTITLEMENTS DIVISION
(619) 446-5460

MITIGATED NEGATIVE ECLARATION

Project No. 255100
SCH No. 2011091045

SUBJECT: Citywide Pipeline Projects: COUNCIL APPROVAL to allow for the replacement, rehabilitation, relocation, point repair, new trenching, trenchless construction, and abandonment of water and/or sewer pipeline alignments and associated improvements such as curb ramps, sewer lateral connections, water service connections, manholes, new pavement/slurry, the removal and/or replacement of street trees and the removal and/or replacement of street lights. This environmental document covers the analysis for ~~five~~ four ~~(5)~~ (4) near-term pipeline projects (Harbor Drive Pipeline, Water Group 949, ~~Sewer Group 787~~, Water Group 914, and Sewer/Water Group 732), as well as any subsequent future pipeline projects. The construction footprint for a typical pipeline project, including staging areas and other areas (such as access) would be located within the City of San Diego Public Right-of-Way (PROW) and/or within public easements and may include planned pipeline construction within private easements from the PROW to the service connection. A signed agreement between the City and the property owner would be required for work conducted on private property. Project types that would be included in the analysis contained herein would consist of sewer and water group jobs, trunk sewers, large diameter water pipeline projects, new and/or replacement manholes, new/or replacement fire hydrants, and other necessary appurtenances . All associated equipment would be staged within the existing PROW adjacent to the work areas. The near-term and future projects covered in the document would not impact *Sensitive Biological Resources* or *Environmentally Sensitive Lands (ESL)* as defined in the Land Development Code and would not encroach into the City's Multi-Habitat Planning Area (MHPA). Applicant: The City of San Diego Engineering and Capital Projects Department AND Public Utilities Department.

Update 10/20/2011

Revisions to this document have been made when compared to the Draft Mitigated Negative Declaration (DMND) dated September 9, 2011. In response to the Comment Letter received from The California Department of Fish and Game, further description and graphics of Water Group 949 as it relates to the MHPA has been added to the Final MND. Please note that Sewer Group 787, which is adjacent to the MHPA, has been removed from the project description and is no longer covered in this MND.

The modifications to the FMND are denoted by ~~strikeout~~ and underline format. In accordance with the California Environmental Quality Act, Section 15073.5 (c)(4), the addition of new information that clarifies, amplifies, or makes insignificant modification does not require recirculation as there are no new impacts and no new mitigation identified. An environmental document need only be recirculated when there is identification of new significant environmental impact or the addition of a new mitigation measure required to avoid a significant environmental impact. The addition

of corrected mitigation language within the environmental document does not affect the environmental analysis or conclusions of the MND.

Construction for the near-term and any future projects is anticipated to occur during the daytime hours Monday through Friday, but may occur during the weekend, if necessary. The contractor would comply with all applicable requirements described in the latest edition of the *Standard Specifications for Public Works Construction ("GREENBOOK")* and the latest edition of the *City of San Diego Standard Specifications for Public Works Construction ("WHITEBOOK")*. The City's supplement addresses unique circumstances to the City of San Diego that are not addressed in the GREENBOOK and would therefore take precedence in the event of a conflict. The contractor would also comply with the California Department of Transportation *Manual of Traffic Controls for Construction and Maintenance Work Zones*. If the Average Daily Traffic (ADT) within a given project(s) vicinity is 10,000 ADT or greater, a traffic control plan would be prepared and implemented in accordance with the *City of San Diego Standard Drawings Manual of Traffic Control for Construction and Maintenance Work Zones*. For proposals subject to 10,000 ADT or less, traffic control may be managed through shop drawings during construction. Construction methods to be employed would consist of, but not be limited to:

Open Trenching: The open trench method of construction would be used for complete replacement and new alignment portions of the project. Trenches are typically four feet wide and are dug with excavations and similar large construction equipment.

Rehabilitation: Rehabilitation of alignment involves installing a new lining in old pipelines. The insertion is done through existing manhole access points and does not require removal of pavement or excavation of soils.

Abandonment: Pipeline abandonment activities would be similar to rehabilitation methods in that no surface/subsurface disturbance would occur. This process may involve slurry or grout material injected into the abandoned lines via manhole access. The top portion of the manhole is then typically removed and the remaining space backfilled and paved over.

Potholing: Potholing would be used to verify reconnection of laterals to main where lines would be raised or realigned (higher than existing depth, but still below ground) or to verify utility crossings. These "potholes" are made by using vacuum type equipment to open up small holes into the street of pavement.

Point Repairs: Point repairs include replacing a portion of a pipe segment by open trench excavation methods in which localized structural defects have been identified. Generally, point repairs are confined to an eight-foot section of pipe.

The following near term project(s) have been reviewed by the City of San Diego, Development Services Department (DSD) for compliance with the Land Development Code and have been determined to be exempt from a Site Development Permit (SDP) and/or a Coastal Development Permit (CDP). These projects would involve excavation in areas having a high resource sensitivity and potential for encountering archaeological and paleontological resources during construction related activities. Therefore, mitigation would be required to reduce potential significant impacts to archaeological and paleontological resources to below a level of significance. With respect to Storm Water, all projects would be reviewed for compliance with the City's Storm Water Standards

Manual. All projects that are not-exempt from the Standard Urban Storm Water Mitigation Plan (SUSMP) would incorporate appropriate Permanent Best Management Practices (BMPs) and construction BMPs into the project design(s) and during construction, as required. As such, all projects would comply with the requirement of the Municipal Storm Water Permit.

HARBOR DRIVE PIPELINE (PROJECT NO. 206100)

The Harbor Drive Pipeline includes the replacement of 4.4 miles of 16-inch cast iron (CI) and asbestos cement (AC) pipe that comprises the Harbor Drive 1st and 2nd Pipelines (HD-1 and HD-2) at a depth no greater than five (5) feet. Facility age and cast iron main replacement are the primary drivers for these projects, but due to the history of AC breaks in the area, approximately 1.0 mile of AC replacement is also included. The project is anticipated to be awarded in Fiscal Year 2013.

HD-1 and HD-2 were built primarily in the 1940's and 1950's and were made out of cast iron or asbestos cement and serve the western most part of the University Heights 390 Zone and the northern section of the Point Loma East 260 Zone. The pipelines also serve as redundancy to each other. Several segments were replaced by various City of San Diego Public Utilities Department projects throughout the years and those segments are not a part of the current scope. Previously replaced segments were 16 inch PVC, except for the bridge crossing which used 24-inch CMLC. The pipeline is located entirely within the PROW, will not require any easements, and is not adjacent to the MHPA or located within any designated historical districts. The following streets would be affected by this project: West Laurel, Pacific Highway, North Harbor Drive (within the roadway, under the bridge and within landscape areas), Nimitz Boulevard, Rosecrans Street, Evergreen Street, Hugo Street, Locust Street, Canon Street, Avenida De Portugal, and Point Loma Avenue.

Mitigation for the Harbor Drive Pipeline: Historical Resources (Archaeological Monitoring)

WATER GROUP 949 (PROJECT NO. 232719)

Water Group 949 would consist of the replacement and installation of 5.27 miles of water mains within the Skyline- Paradise Hills, University, Clairemont Mesa, Southeastern San Diego (Greater Golden Hills) community planning areas. 16,931 Linear Feet (LF) of 16-inch cast iron water mains would be replace-in-place with new 16-inch polyvinyl chloride (PVC) pipe within the existing trench. The remaining 10,913 LF of new 16-inch PVC would be installed in new trenches. All work within Regents Road, Site 2 (Figure 8), adjacent to the MHPA would only occur within the developed footprint such as the paved right of way, and concrete sidewalk or slab areas. In addition, all work within 100 feet of the MHPA would observe mitigation such as but not limited to, bird breeding season measures, avoidance of discharge into the MHPA, and avoidance of direct lighting towards the MHPA areas. As such, no impacts to MHPA and/or sensitive resources would occur. The project would also include replacement and reinstallation of valves, water services, fire hydrants, and other appurtenances and would also included the construction of curb ramps, and street resurfacing. Traffic control measures and Best Management Practices (BMPs) would be implemented during construction. Any street tree removal, relocation, and/or trimming would be done under the supervision of the City Arborist. All staging of construction equipment will be located outside of any potentially sensitive areas. The following streets and nearby alleyways would be affected by this project: Tuther Way, Cielo Drive, Woodman Street, Skyline Drive, Regents Road, Hidalgo Avenue, Clairemont Mesa Boulevard, Luna Avenue, B Street, F Street, Ash Street, 25th Street, and 27th Street.

Mitigation Required for Water Group 949: This project would require the implementation of MHPA Land Use Adjacency Guidelines in the University and Clairemont Mesa Community Planning areas that are adjacent (within 100 feet) to the MHPA and Historical Resources (Built Environment) mitigation for the area of the project located within the Greater Golden Hill Historic District.

~~SEWER GROUP 787 (PROJECT NO. 231928)~~

~~Sewer Group 787 would consist of the replacement of 26,436 lineal feet (LF) of existing 16-inch cast iron sewer pipe with new 16-inch polyvinyl chloride (PVC) pipe within the existing trench. A total of 1,267 LF of new 16 inch PVC sewer alignment would be installed in new trenches. In addition, the project would abandon 1,606 LF of existing 16-inch cast iron pipe. The proposed project would be installed by conventional excavation (open trench) in trenches from 3-5 feet deep. The project would affect the following streets and nearby alleyways: 42nd Street, Monroe Avenue, Edgeware Road, Polk Avenue, Orange Avenue, Menlo Avenue, 47TH Street, Dwight Street, Myrtle Avenue, Manzanita Place, Heather Street, Dahlia Street, Poplar Street, Columbine Street, Pepper Drive, Juniper Street, Marigold Street, Sumac Drive, 44TH Street, Laurie Lane, and Roseview Place all within the City Heights and Kensington-Talmadge Community Planning Areas.~~

~~**Mitigation Required for Water Group 787: This project would require the implementation of MHPA Land Use Adjacency Guidelines in the City Heights and Kensington Talmadge Community Planning areas that are adjacent (within 100 feet) to the MHPA, Historical Resources (Archaeological and Paleontological Monitoring).**~~

WATER GROUP 914 (PROJECT NO. 233447)

Water Group 914 would consist of the replacement and installation of approximately 21,729 lineal feet (LF) of existing 6-inch, 8-inch and 12-inch cast iron pipes and 6-inch asphalt concrete pipes with new 8-inch, 12-inch and 16-inch polyvinyl chloride (PVC) pipe. Also included would be the construction of two underground pressure regulator stations that measure 54 square-feet and 6.5 feet deep each. 17,472 LF would be located in existing trenches and 4,257 LF would be located in new trench lines. The proposed project would be installed by conventional excavation (open trench) in trenches from 3-5 feet deep. However two 300 LF parallel line sections (600 LF total) of the water alignment would be installed by trenchless methodology utilizing two (2) 40 square foot launch and receiver pits. The trenchless installation would occur at the intersection of Coronado Avenue and Ebers Street and is designed to avoid a recorded archaeological resource at this intersection. The trenchless methodology would employ directional underground boring that would install the pipe at a depth deeper than the recorded resource. In addition, a 4-inch AC water segment of approximately 520 LF located along Point Loma Avenue between Guizot Street and Santa Barbara Street will be abandoned in place. The project would affect the following streets and nearby alleyways: Point Loma Avenue, Santa Barbara Street, Bermuda Avenue, Pescadero Avenue, Cable Street, Orchard Avenue, Froude Street, Sunset Cliffs Boulevard, Savoy Circle, and Del Monte Avenue all within the Ocean Beach and Peninsula Community Planning Areas.

Mitigation for Water Group 914: Historical Resources (Archaeological Monitoring) and (Built Environment)

SEWER AND WATER GROUP 732 (PROJECT NO. 206610)

Sewer and Water Group Job 732 would consist of the installation of approximately 5,500 total linear feet (LF) of 8 inch Polyvinyl Chloride (PVC) sewer pipe, and approximately 3,000 total linear feet (LF) of 12 inch PVC water pipe. Approximately, 1,035 LF of water pipe would be rehabilitated using trenchless technology in the same trench, with the remainder of the installation accomplished through open trenching. Related work would include construction of new manholes, replacement and re-plumbing of sewer laterals, installation of curb ramps, pavement restoration, traffic control, and storm water best management practices. Construction of the project would affect portions of the following streets and adjacent alleys in the Peninsula Community Plan area: Xenephon Street, Yonge Street, Zola Street, Alcott Street, Browning Street, Plum Street, Willow Street, Evergreen Street, Locust Street, and Rosecrans Street.

Mitigation Required for Sewer and Water Group 732: Historical Resources (Archaeological and Paleontological Monitoring).

SUBSEQUENT PIPELINE PROJECT REVIEW (LONG TERM)

Applications for the replacement, rehabilitation, relocation, point repair, open trenching and abandonment of water and/or sewer pipeline alignments within the City of San Diego PROW as indicated in the Subject block above and in the Project Description discussion of the Initial Study would be analyzed for potential environmental impacts to Historical Resources (Archaeology. Paleontology and the Built Environment) and Land Use (MSCP/MHPA), and reviewed for consistency with this Mitigated Negative Declaration (MND). Where it can be determined that the project is "consistent" with this MND and no additional potential significant impacts would occur pursuant to State CEQA Guideline § 15162 (i.e. the involvement of new significant environmental effects of a substantial increase in the severity of previously identified effects) or if the project would result in minor technical changes or additions, then an Addendum to this MND would be prepared pursuant to §15164. Where future projects are found not to be consistent with this MND, then a new Initial Study and project specific MND shall be prepared.

I. PROJECT DESCRIPTION: See attached Initial Study.

II. ENVIRONMENTAL SETTING: See attached Initial Study.

III. DETERMINATION:

The City of San Diego conducted an Initial Study which determined that the near term projects and any future subsequent projects could have a significant environmental effect in the following areas(s): Land Use (MSCP/MHPA Land Use Adjacency), Historical Resources (Built Environment), Historical Resources (Archaeology) and Paleontology. When subsequent projects are submitted to DSD, the Environmental Analysis Section (EAS) will determine which of the project specific mitigation measures listed in Section V. would apply. Subsequent revisions in the project proposal create the specific mitigation identified in Section V of this Mitigated Negative Declaration. Projects as revised now avoid or mitigate the potentially significant environmental effects previously identified, and the preparation of an Environmental Impact Report will not be required.

IV. DOCUMENTATION:

The attached Initial Study documents the reasons to support the above Determination.

V. MITIGATION, MONITORING AND REPORTING PROGRAM (MMRP):

A. GENERAL REQUIREMENTS – PART I
Plan Check Phase (prior to permit issuance)

1. Prior to Bid Opening/Bid Award 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 have been incorporated.

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.

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 as necessary:

   Biologist, Archaeologist, Native American Monitor, Historian and Paleontologist

   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) No. 255100, or for subsequent future projects the associated PTS No, shall conform to the mitigation requirements contained in the associated Environmental Document and implemented to the satisfaction of the DSD's ED, 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 that any other agency requirements or permits have been obtained or are in process 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 as 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.

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

Issue Area	*Document submittal*	*Associated Inspection/Approvals/Note*
General	Consultant Qualification Letters	Prior to Pre-construction Mtg.
General	Consultant Const. Monitoring	Prior to or at Pre-Construction Mtg.
Biology	Biology Reports	Limit of Work Verification
Historical	Historical Reports	Historical observation (built envirnmt)
Archaeology	Archaeology Reports	Archaeology observation
Paleontology	Paleontology Reports	Paleontology observation
Final MMRP		Final MMRP Inspection

SPECIFIC MMRP ISSUE AREA CONDITIONS/REQUIREMENTS:

A. LAND USE [MULTIPLE SPECIES CONSERVATION PROGRAM (MSCP) For PROJECTS WITHIN 100 FEET OF THE MHPA]

I. Prior to Permit Issuance

A. Prior to issuance of any construction permit, the DSD Environmental Designee (ED) shall verify the Applicant has accurately represented the project's design in the Construction Documents (CDs) that are in conformance with the associated discretionary permit conditions and Exhibit "A", and also the City's Multi-Species Conservation Program (MSCP) Land Use Adjacency Guidelines for the Multiple Habitat Planning Area (MHPA), including identifying adjacency as the potential for direct/indirect impacts where applicable. In addition, all CDs where applicable shall show the following:

1. **Land Development / Grading / Boundaries** –MHPA boundaries on-site and adjacent properties shall be delineated on the CDs. The ED shall ensure that all grading is included within the development footprint, specifically manufactured slopes, disturbance, and development within or adjacent to the MHPA..
2. **Drainage / Toxins** –All new and proposed parking lots and developed area in and adjacent to the MHPA shall be designed so they do not drain directly into the MHPA, All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials prior to release by incorporating the use of filtration devices, planted swales and/or planted detention/desiltation basins, or other approved permanent methods that are designed to minimize negative impacts, such as excessive water and toxins into the ecosystems of the MHPA.
3. **Staging/storage, equipment maintenance, and trash** –All areas for staging, storage of equipment and materials, trash, equipment maintenance, and other construction related activities are within the development footprint. Provide a note on the plans that states: *"All construction related activity that may have potential for leakage or intrusion shall be monitored by the Qualified Biologist/Owners Representative to ensure there is no impact to the MHPA."*
4. **Barriers** –All new development within or adjacent to the MHPA shall provide fencing or other City approved barriers along the MHPA boundaries to direct public access to appropriate locations, to reduce domestic animal predation, and to direct wildlife to appropriate corridor crossing. Permanent barriers may include, but are not limited to, fencing (6-foot black vinyl coated chain link or equivalent), walls, rocks/boulders, vegetated buffers, and signage for access, litter, and educational purposes.
5. **Lighting** – All building, site, and landscape lighting adjacent to the MHPA shall be directed away from the preserve using proper placement and adequate shielding to protect sensitive habitat. Where necessary, light from traffic or other incompatible uses, shall be shielded from the MHPA through the utilization of including, but not limited to, earth berms, fences, and/or plant material.
6. **Invasive Plants** – Plant species within 100 feet of the MHPA shall comply with the Landscape Regulations (LDC142.0400 and per table 142-04F, Revegetation and Irrigation Requirements) and be non invasive. Landscape plans shall include a note that states: *"The ongoing maintenance requirements of the property owner shall*

prohibit the use of any planting that are invasive, per City Regulations, Standards, guidelines,etc., within 100 feet of the MHPA."

7. **Brush Management** –All new development adjacent to the MHPA is set back from the MHPA to provide the required Brush Management Zone (BMZ) 1 area (LDC Sec. 142.0412) within the development area and outside of the MHPA. BMZ 2 may be located within the MHPA and the BMZ 2 management shall be the responsibility of a HOA or other private entity.
8. **Noise**- Due to the site's location adjacent to or within the MHPA, construction noise that exceeds the maximum levels allowed shall be avoided, during the breeding seasons for protected avian species such as: *California Gnatcatcher (3/1-8/15); Least Bell's vireo (3/15-9/15); and Southwestern Willow Flycatcher (5/1-8/30).* If construction is proposed during the breeding season for the species, U.S. Fish and Wildlife Service protocol surveys shall be required in order to determine species presence/absence. When applicable, adequate noise reduction measures shall be incorporated. Upon project submittal EAS shall determine which of the following project specific avian protocol surveys shall be required.

COASTAL CALIFORNIA GNATCATCHER

NO CLEARING, GRUBBING, GRADING, OR OTHER CONSTRUCTION ACTIVITIES SHALL OCCUR BETWEEN MARCH 1 AND AUGUST 15, THE BREEDING SEASON OF THE COASTAL CALIFORNIA GNATCATCHER, UNTIL THE FOLLOWING REQUIREMENTS HAVE BEEN MET TO THE SATISFACTION OF THE CITY MANAGER:

a. A QUALIFIED BIOLOGIST (POSSESSING A VALID ENDANGERED SPECIES ACT SECTION 10(a)(1)(A) RECOVERY PERMIT) SHALL SURVEY THOSE HABITAT AREAS ~~WITHIN~~ ADJACENT TO THE MHPA THAT WOULD BE SUBJECT TO CONSTRUCTION NOISE LEVELS EXCEEDING 60 DECIBELS [dB(A)] HOURLY AVERAGE FOR THE PRESENCE OF THE COASTAL CALIFORNIA GNATCATCHER. SURVEYS FOR THE COASTAL CALIFORNIA GNATCATCHER SHALL BE CONDUCTED PURSUANT TO THE PROTOCOL SURVEY GUIDELINES ESTABLISHED BY THE U.S. FISH AND WILDLIFE SERVICE WITHIN THE BREEDING SEASON PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. IF GNATCATCHERS ARE PRESENT, THEN THE FOLLOWING CONDITIONS MUST BE MET:

   BETWEEN MARCH 1 AND AUGUST 15, NO CLEARING, GRUBBING, OR GRADING OF OCCUPIED GNATCATCHER HABITAT SHALL BE PERMITTED. AREAS RESTRICTED FROM SUCH ACTIVITIES SHALL BE STAKED OR FENCED UNDER THE SUPERVISION OF A QUALIFIED BIOLOGIST; AND

   1. BETWEEN MARCH 1 AND AUGUST 15, NO CONSTRUCTION ACTIVITIES SHALL OCCUR WITHIN ANY PORTION OF THE SITE WHERE CONSTRUCTION ACTIVITIES WOULD RESULT IN NOISE LEVELS EXCEEDING 60 dB(A) HOURLY AVERAGE AT THE EDGE OF OCCUPIED GNATCATCHER HABITAT. AN ANALYSIS SHOWING THAT NOISE GENERATED BY CONSTRUCTION

ACTIVITIES WOULD NOT EXCEED 60 dB(A) HOURLY AVERAGE AT THE EDGE OF OCCUPIED HABITAT MUST BE COMPLETED BY A QUALIFIED ACOUSTICIAN (POSSESSING CURRENT NOISE ENGINEER LICENSE OR REGISTRATION WITH MONITORING NOISE LEVEL EXPERIENCE WITH LISTED ANIMAL SPECIES) AND APPROVED BY THE CITY MANAGER AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES DURING THE BREEDING SEASON, AREAS RESTRICTED FROM SUCH ACTIVITIES SHALL BE STAKED OR FENCED UNDER THE SUPERVISION OF A QUALIFIED BIOLOGIST; OR

2. AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES, UNDER THE DIRECTION OF A QUALIFIED ACOUSTICIAN, NOISE ATTENUATION MEASURES (e.g., BERMS, WALLS) SHALL BE IMPLEMENTED TO ENSURE THAT NOISE LEVELS RESULTING FROM CONSTRUCTION ACTIVITIES WILL NOT EXCEED 60 dB(A) HOURLY AVERAGE AT THE EDGE OF HABITAT OCCUPIED BY THE COASTAL CALIFORNIA GNATCATCHER. CONCURRENT WITH THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES AND THE CONSTRUCTION OF NECESSARY NOISE ATTENUATION FACILITIES, NOISE MONITORING* SHALL BE CONDUCTED AT THE EDGE OF THE OCCUPIED HABITAT AREA TO ENSURE THAT NOISE LEVELS DO NOT EXCEED 60 dB(A) HOURLY AVERAGE. IF THE NOISE ATTENUATION TECHNIQUES IMPLEMENTED ARE DETERMINED TO BE INADEQUATE BY THE QUALIFIED ACOUSTICIAN OR BIOLOGIST, THEN THE ASSOCIATED CONSTRUCTION ACTIVITIES SHALL CEASE UNTIL SUCH TIME THAT ADEQUATE NOISE ATTENUATION IS ACHIEVED OR UNTIL THE END OF THE BREEDING SEASON (AUGUST 16).

* Construction noise monitoring shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the construction activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. If not, other measures shall be implemented in consultation with the biologist and the City Manager, as necessary, to reduce noise levels to below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. Such measures may include, but are not limited to, limitations on the placement of construction equipment and the simultaneous use of equipment.

b. IF COASTAL CALIFORNIA GNATCATCHERS ARE NOT DETECTED DURING THE PROTOCOL SURVEY, THE QUALIFIED BIOLOGIST SHALL SUBMIT SUBSTANTIAL EVIDENCE TO THE CITY MANAGER AND APPLICABLE RESOURCE AGENCIES WHICH DEMONSTRATES WHETHER OR NOT MITIGATION MEASURES SUCH AS NOISE WALLS ARE NECESSARY BETWEEN MARCH 1 AND AUGUST 15 AS FOLLOWS:

1. IF THIS EVIDENCE INDICATES THE POTENTIAL IS HIGH FOR COASTAL CALIFORNIA GNATCATCHER TO BE PRESENT BASED ON HISTORICAL RECORDS OR SITE CONDITIONS, THEN CONDITION A.III SHALL BE ADHERED TO AS SPECIFIED ABOVE.

2. IF THIS EVIDENCE CONCLUDES THAT NO IMPACTS TO THIS SPECIES ARE ANTICIPATED, NO MITIGATION MEASURES WOULD BE NECESSARY.

LEAST BELL'S VIREO (State Endangered/Federally Endangered)

NO CLEARING, GRUBBING, GRADING, OR OTHER CONSTRUCTION ACTIVITIES SHALL OCCUR BETWEEN MARCH 15 AND SEPTEMBER 15, THE BREEDING SEASON OF THE LEAST BELL'S VIREO, UNTIL THE FOLLOWING REQUIREMENTS HAVE BEEN MET TO THE SATISFACTION OF THE CITY MANAGER:

A. A QUALIFIED BIOLOGIST (POSSESSING A VALID ENDANGERED SPECIES ACT SECTION 10(a)(1)(A) RECOVERY PERMIT) SHALL SURVEY THOSE WETLAND AREAS THAT WOULD BE SUBJECT TO CONSTRUCTION NOISE LEVELS EXCEEDING 60 DECIBELS [dB(A)] HOURLY AVERAGE FOR THE PRESENCE OF THE LEAST BELL'S VIREO. SURVEYS FOR THE THIS SPECIES SHALL BE CONDUCTED PURSUANT TO THE PROTOCOL SURVEY GUIDELINES ESTABLISHED BY THE U.S. FISH AND WILDLIFE SERVICE WITHIN THE BREEDING SEASON PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. IF THE LEAST BELL'S VIREO IS PRESENT, THEN THE FOLLOWING CONDITIONS MUST BE MET:

   BETWEEN MARCH 15 AND SEPTEMBER 15, NO CLEARING, GRUBBING, OR GRADING OF OCCUPIED LEAST BELL'S VIREO HABITAT SHALL BE PERMITTED. AREAS RESTRICTED FROM SUCH ACTIVITIES SHALL BE STAKED OR FENCED UNDER THE SUPERVISION OF A QUALIFIED BIOLOGIST; AND

   BETWEEN MARCH 15 AND SEPTEMBER 15, NO CONSTRUCTION ACTIVITIES SHALL OCCUR WITHIN ANY PORTION OF THE SITE WHERE CONSTRUCTION ACTIVITIES WOULD RESULT IN NOISE LEVELS EXCEEDING 60 dB(A) HOURLY AVERAGE AT THE EDGE OF OCCUPIED LEAST BELL'S VIREO OR HABITAT. AN ANALYSIS SHOWING THAT NOISE GENERATED BY CONSTRUCTION ACTIVITIES WOULD NOT EXCEED 60 dB(A) HOURLY AVERAGE AT THE EDGE OF OCCUPIED HABITAT MUST BE COMPLETED BY A QUALIFIED ACOUSTICIAN (POSSESSING CURRENT NOISE ENGINEER LICENSE OR REGISTRATION WITH MONITORING NOISE LEVEL EXPERIENCE WITH LISTED ANIMAL SPECIES) AND APPROVED BY THE CITY MANAGER AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES. PRIOR TO THE COMMENCEMENT OF ANY OF CONSTRUCTION ACTIVITIES DURING THE BREEDING SEASON, AREAS RESTRICTED FROM SUCH ACTIVITIES SHALL BE STAKED OR FENCED

UNDER THE SUPERVISION OF A QUALIFIED BIOLOGIST; OR

AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES, UNDER THE DIRECTION OF A QUALIFIED ACOUSTICIAN, NOISE ATTENUATION MEASURES (e.g., BERMS, WALLS) SHALL BE IMPLEMENTED TO ENSURE THAT NOISE LEVELS RESULTING FROM CONSTRUCTION ACTIVITIES WILL NOT EXCEED 60 dB(A) HOURLY AVERAGE AT THE EDGE OF HABITAT OCCUPIED BY THE LEAST BELL'S VIREO. CONCURRENT WITH THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES AND THE CONSTRUCTION OF NECESSARY NOISE ATTENUATION FACILITIES, NOISE MONITORING* SHALL BE CONDUCTED AT THE EDGE OF THE OCCUPIED HABITAT AREA TO ENSURE THAT NOISE LEVELS DO NOT EXCEED 60 dB(A) HOURLY AVERAGE. IF THE NOISE ATTENUATION TECHNIQUES IMPLEMENTED ARE DETERMINED

TO BE INADEQUATE BY THE QUALIFIED ACOUSTICIAN OR BIOLOGIST, THEN THE ASSOCIATED CONSTRUCTION ACTIVITIES SHALL CEASE UNTIL SUCH TIME THAT ADEQUATE NOISE ATTENUATION IS ACHIEVED OR UNTIL THE END OF THE BREEDING SEASON (SEPTEMBER 16).

* Construction noise monitoring shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the construction activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. If not, other measures shall be implemented in consultation with the biologist and the City Manager, as necessary, to reduce noise levels to below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. Such measures may include, but are not limited to, limitations on the placement of construction equipment and the simultaneous use of equipment.

B. IF LEAST BELL'S VIREO ARE NOT DETECTED DURING THE PROTOCOL SURVEY, THE QUALIFIED BIOLOGIST SHALL SUBMIT SUBSTANTIAL EVIDENCE TO THE CITY MANAGER AND APPLICABLE RESOURCE AGENCIES WHICH DEMONSTRATES WHETHER OR NOT MITIGATION MEASURES SUCH AS NOISE WALLS ARE NECESSARY BETWEEN MARCH 15 AND SEPTEMBER 15 AS FOLLOWS:

I. IF THIS EVIDENCE INDICATES THE POTENTIAL IS HIGH FOR LEAST BELL'S VIREO TO BE PRESENT BASED ON HISTORICAL RECORDS OR SITE CONDITIONS, THEN CONDITION A.III SHALL BE ADHERED TO AS SPECIFIED ABOVE.

II. IF THIS EVIDENCE CONCLUDES THAT NO IMPACTS TO THIS SPECIES ARE ANTICIPATED, NO MITIGATION MEASURES WOULD BE NECESSARY.

SOUTHWESTERN WILLOW FLYCATCHER (Federally Endangered)

1. Prior to the first reconstruction meeting, the City Manager (or appointed designee) shall verify that the following project requirements regarding the southwestern willow flycatcher are shown on the construction plans:

NO CLEARING, GRUBBING, GRADING, OR OTHER CONSTRUCTION ACTIVITIES SHALL OCCUR BETWEEN MAY 1 AND SEPTEMBER 1, THE BREEDING SEASON OF THE SOUTHWESTERN WILLOW FLYCATCHER, UNTIL

THE FOLLOWING REQUIREMENTS HAVE BEEN MET TO THE SATISFACTION OF THE CITY MANAGER:

A. A QUALIFIED BIOLOGIST (POSSESSING A VALID ENDANGERED SPECIES ACT SECTION 10(a)(1)(A) RECOVERY PERMIT) SHALL SURVEY THOSE WETLAND AREAS THAT WOULD BE SUBJECT TO CONSTRUCTION NOISE LEVELS EXCEEDING 60 DECIBELS [dB(A)] HOURLY AVERAGE FOR THE PRESENCE OF THE SOUTHWESTERN WILLOW FLYCATCHER. SURVEYS FOR THIS SPECIES SHALL BE CONDUCTED PURSUANT TO THE PROTOCOL SURVEY GUIDELINES ESTABLISHED BY THE U.S. FISH AND WILDLIFE SERVICE WITHIN THE BREEDING SEASON PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. IF THE SOUTHWESTERN WILLOW FLYCATCHER IS PRESENT, THEN THE FOLLOWING CONDITIONS MUST BE MET:

BETWEEN MAY 1 AND SEPTEMBER 1, NO CLEARING, GRUBBING, OR GRADING OF OCCUPIED SOUTHWESTERN WILLOW FLYCATCHER HABITAT SHALL BE PERMITTED. AREAS RESTRICTED FROM SUCH ACTIVITIES SHALL BE STAKED OR FENCED UNDER THE SUPERVISION OF A QUALIFIED BIOLOGIST; AND

BETWEEN MAY 1 AND SEPTEMBER 1, NO CONSTRUCTION ACTIVITIES SHALL OCCUR WITHIN ANY PORTION OF THE SITE WHERE CONSTRUCTION ACTIVITIES WOULD RESULT IN NOISE LEVELS EXCEEDING 60 dB(A) HOURLY AVERAGE AT THE EDGE OF OCCUPIED SOUTHWESTERN WILLOW FLYCATCHER HABITAT. AN ANALYSIS SHOWING THAT NOISE GENERATED BY CONSTRUCTION ACTIVITIES WOULD NOT EXCEED 60 dB(A) HOURLY AVERAGE AT THE EDGE OF OCCUPIED HABITAT MUST BE COMPLETED BY A QUALIFIED ACOUSTICIAN (POSSESSING CURRENT NOISE ENGINEER LICENSE OR REGISTRATION WITH MONITORING NOISE LEVEL EXPERIENCE WITH LISTED ANIMAL SPECIES) AND APPROVED BY THE CITY MANAGER AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES DURING THE BREEDING SEASON, AREAS RESTRICTED FROM SUCH ACTIVITIES SHALL BE STAKED OR FENCED UNDER THE SUPERVISION OF A QUALIFIED BIOLOGIST; OR AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES, UNDER THE DIRECTION OF A QUALIFIED ACOUSTICIAN,

NOISE ATTENUATION MEASURES (e.g., BERMS, WALLS) SHALL BE IMPLEMENTED TO ENSURE THAT NOISE LEVELS RESULTING FROM CONSTRUCTION ACTIVITIES WILL NOT EXCEED 60 dB(A) HOURLY AVERAGE AT THE EDGE OF HABITAT OCCUPIED BY THE SOUTHWESTERN WILLOW FLYCATCHER. CONCURRENT WITH THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES AND THE CONSTRUCTION OF NECESSARY NOISE ATTENUATION FACILITIES, NOISE MONITORING* SHALL BE CONDUCTED AT THE EDGE OF THE OCCUPIED HABITAT AREA TO ENSURE THAT NOISE LEVELS DO NOT EXCEED 60 dB(A) HOURLY AVERAGE. IF THE NOISE ATTENUATION TECHNIQUES IMPLEMENTED ARE DETERMINED TO BE INADEQUATE BY THE QUALIFIED ACOUSTICIAN OR BIOLOGIST, THEN THE ASSOCIATED CONSTRUCTION ACTIVITIES SHALL CEASE UNTIL SUCH TIME THAT ADEQUATE NOISE ATTENUATION IS ACHIEVED OR UNTIL THE END OF THE BREEDING SEASON (SEPTEMBER 1).

* Construction noise monitoring shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the construction activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. If not, other measures shall be implemented in consultation with the biologist and the City Manager, as necessary, to reduce noise levels to below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. Such measures may include, but are not limited to, limitations on the placement of construction equipment and the simultaneous use of equipment.

B. IF SOUTHWESTERN WILLOW FLYCATCHER ARE NOT DETECTED DURING THE PROTOCOL SURVEY, THE QUALIFIED BIOLOGIST SHALL SUBMIT SUBSTANTIAL EVIDENCE TO THE CITY MANAGER AND APPLICABLE RESOURCE AGENCIES WHICH DEMONSTRATES WHETHER OR NOT MITIGATION MEASURES SUCH AS NOISE WALLS ARE NECESSARY BETWEEN MAY 1 AND SEPTEMBER 1 AS FOLLOWS:

I. IF THIS EVIDENCE INDICATES THE POTENTIAL IS HIGH FOR SOUTHWESTERN WILLOW FLYCATCHER TO BE PRESENT BASED ON HISTORICAL RECORDS OR SITE CONDITIONS, THEN CONDITION A.III SHALL BE ADHERED TO AS SPECIFIED ABOVE.

II. IF THIS EVIDENCE CONCLUDES THAT NO IMPACTS TO THIS SPECIES ARE ANTICIPATED, NO MITIGATION MEASURES WOULD BE NECESSARY.

II. Prior to Start of Construction

A. Preconstruction Meeting

The Qualified Biologist/Owners Representative shall incorporate all MHPA construction related requirements, into the project's Biological Monitoring Exhibit (BME).

The Qualified Biologist/Owners Representative is responsible to arrange and perform a focused pre-con with all contractors, subcontractors, and all workers involved in grading or other construction activities that discusses the sensitive nature of the adjacent sensitive biological resources.

III. During Construction

A. The Qualified Biologist/Owners Representative, shall verify that all construction related activities taking place ~~within or~~ adjacent to the MHPA are consistent with the CDs, the MSCP/MHPA Land Use Adjacency Guidelines. The Qualified Biologist/Owners Representative shall monitor and ensure that:

1. **Land Development /Grading Boundaries** - The MHPA boundary and the limits of grading shall be clearly delineated by a survey crew prior to brushing, clearing, or grading. Limits shall be defined with orange construction fence and a siltation fence (can be combined) under the supervision of the Qualified Biologist/Owners Representative who shall provide a letter of verification to RE/MMC that all limits were marked as required. ~~Within or a~~Adjacent to the MHPA, all manufactured slopes associated with site development shall be included within the development footprint.
2. **Drainage/Toxics** - No Direct drainage into the MHPA shall occur during or after construction and that filtration devices, swales and/or detention/desiltation basins that drain into the MHPA are functioning properly during construction, and that permanent maintenance after construction is addressed. These systems should be maintained approximately once a year, or as often a needed, to ensure proper functioning. Maintenance should include dredging out sediments if needed, removing exotic plant materials, and adding chemical-neutralizing compounds (e.g. clay compounds) when necessary and appropriate.
3. **Staging/storage, equipment maintenance, and trash** - Identify all areas for staging, storage of equipment and materials, trash, equipment maintenance, and other construction related activities on the monitoring exhibits and verify that they are within the development footprint. Comply with the applicable notes on the plans
4 **Barriers** - New development adjacent to the MHPA provides city approved barriers along the MHPA boundaries
5. **Lighting** - Periodic night inspections are performed to verify that all lighting adjacent to the MHPA is directed away from preserve areas and appropriate placement and shielding is used.
6. **Invasives** - No invasive plant species are used ~~in or~~ adjacent (within 100 feet) to the MHPA ~~and that within the MHPA, all plant species must be native~~.
7. **Brush Management** - BMZ1 is within the development footprint and outside of the MHPA, and that maintenance responsibility for the BMZ 2 located within the MHPA is identified as the responsibility of an HOA or other private entity.
8. **Noise** – For any area of the site that is adjacent to ~~or within~~ the MHPA, construction noise that exceeds the maximum levels allowed, shall be avoided, during the breeding seasons, for protected avian species such as: *California Gnatcatcher (3/1-8/15); Least Bell's vireo (3/15-9/15); and Southwestern Willow Flycatcher (5/1-8/30)*. If construction is proposed during the breeding season for the species, U.S. Fish and Wildlife Service protocol surveys will be required in order to determine species presence/absence. When applicable, adequate noise reduction measures shall

be incorporated.

IV. Post Construction

A. Preparation and Submittal of Monitoring Report

The Qualified Biologist/Owners Representative shall submit a final biological monitoring report to the RE/MMC within 30 days of the completion of construction that requires monitoring. The report shall incorporate the results of the MMRP/MSCP requirements per the construction documents and the BME to the satisfaction of RE/MMC.

B. HISTORICAL RESOURCES (ARCHAEOLOGY)

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
   b. 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.
   c. 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).
   d. 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 (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 Archaeological Monitor shall direct the contractor to temporarily divert all soil disturbing activities, including but not limited to digging, trenching, excavating or grading activities in the area of discovery and in the area reasonably suspected to overlay adjacent resources and immediately notify the RE or BI, as appropriate.
2. The Monitor shall immediately notify the PI (unless Monitor is the PI) of the discovery.
3. The PI shall immediately notify MMC by phone of the discovery, and shall also submit written documentation to MMC within 24 hours by fax or email with photos of the resource in context, if possible.
4. No soil shall be exported off-site until a determination can be made regarding the significance of the resource specifically if Native American resources are encountered.

C. Determination of Significance

1. The PI and Native American consultant/monitor, where Native American resources are discovered shall evaluate the significance of the resource. If Human Remains are involved, follow protocol in Section IV below.
   a. The PI shall immediately notify MMC by phone to discuss significance determination and shall also submit a letter to MMC indicating whether additional mitigation is required.
   b. If the resource is significant, the PI shall submit an Archaeological Data Recovery Program (ADRP) and obtain written approval of the program from MMC, CM and RE. ADRP and any mitigation must be approved by MMC, RE and/or CM before ground disturbing activities in the area of discovery will be allowed to resume. **Note: If a unique archaeological site is also an historical resource as defined in CEQA Section 15064.5, then the limits on the amount(s) that a project applicant may be required to pay to cover mitigation costs as indicated in CEQA Section 21083.2 shall not apply.**
      (1). Note: For pipeline trenching and other linear projects in the public Right-of-Way, the PI shall implement the Discovery Process for Pipeline Trenching projects identified below under "D."
   c. If the resource is not significant, the PI shall submit a letter to MMC indicating that artifacts will be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that that no further work is required.

(1). Note: For Pipeline Trenching and other linear projects in the public Right-of-Way, if the deposit is limited in size, both in length and depth; the information value is limited and is not associated with any other resource; and there are no unique features/artifacts associated with the deposit, the discovery should be considered not significant.

(2). Note, for Pipeline Trenching and other linear projects in the public Right-of-Way, if significance cannot be determined, the Final Monitoring Report and Site Record (DPR Form 523A/B) shall identify the discovery as Potentially Significant.

D. Discovery Process for Significant Resources - Pipeline Trenching and other Linear Projects in the Public Right-of-Way

The following procedure constitutes adequate mitigation of a significant discovery encountered during pipeline trenching activities or for other linear project types within the Public Right-of-Way including but not limited to excavation for jacking pits, receiving pits, laterals, and manholes to reduce impacts to below a level of significance:

1. Procedures for documentation, curation and reporting
   a. One hundred percent of the artifacts within the trench alignment and width shall be documented in-situ, to include photographic records, plan view of the trench and profiles of side walls, recovered, photographed after cleaning and analyzed and curated. The remainder of the deposit within the limits of excavation (trench walls) shall be left intact.
   b. The PI shall prepare a Draft Monitoring Report and submit to MMC via the RE as indicated in Section VI-A.
   c. The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) the resource(s) encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines. The DPR forms shall be submitted to the South Coastal Information Center for either a Primary Record or SDI Number and included in the Final Monitoring Report.
   d. The Final Monitoring Report shall include a recommendation for monitoring of any future work in the vicinity of the resource.

IV. Discovery of Human Remains

If human remains are discovered, work shall halt in that area and no soil shall be exported off-site until a determination can be made regarding the provenance of the human remains; and the following procedures as set forth in CEQA Section 15064.5(e), the California Public Resources Code (Sec. 5097.98) and State Health and Safety Code (Sec. 7050.5) shall be undertaken:

A. Notification
   1. Archaeological Monitor shall notify the RE or BI as appropriate, MMC, and the PI, if the Monitor is not qualified as a PI. MMC will notify the appropriate Senior Planner in the Environmental Analysis Section (EAS) of the Development Services Department to assist with the discovery notification process.
   2. The PI shall notify the Medical Examiner after consultation with the RE, either in person or via telephone.

B. Isolate discovery site
   1. Work shall be directed away from the location of the discovery and any nearby area reasonably suspected to overlay adjacent human remains until a determination can

be made by the Medical Examiner in consultation with the PI concerning the provenience of the remains.

2. The Medical Examiner, in consultation with the PI, will determine the need for a field examination to determine the provenience.
3. If a field examination is not warranted, the Medical Examiner will determine with input from the PI, if the remains are or are most likely to be of Native American origin.

C. If Human Remains **ARE** determined to be Native American
   1. The Medical Examiner will notify the Native American Heritage Commission (NAHC) within 24 hours. By law, **ONLY** the Medical Examiner can make this call.
   2. NAHC will immediately identify the person or persons determined to be the Most Likely Descendent (MLD) and provide contact information.
   3. The MLD will contact the PI within 24 hours or sooner after the Medical Examiner has completed coordination, to begin the consultation process in accordance with CEQA Section 15064.5(e), the California Public Resources and Health & Safety Codes.
   4. The MLD will have 48 hours to make recommendations to the property owner or representative, for the treatment or disposition with proper dignity, of the human remains and associated grave goods.
   5. Disposition of Native American Human Remains will be determined between the MLD and the PI, and, if:
      a. The NAHC is unable to identify the MLD, OR the MLD failed to make a recommendation within 48 hours after being notified by the Commission, OR;
      b. The landowner or authorized representative rejects the recommendation of the MLD and mediation in accordance with PRC 5097.94 (k) by the NAHC fails to provide measures acceptable to the landowner, THEN
      c. To protect these sites, the landowner shall do one or more of the following:
         (1) Record the site with the NAHC;
         (2) Record an open space or conservation easement; or
         (3) Record a document with the County.
      d. Upon the discovery of multiple Native American human remains during a ground disturbing land development activity, the landowner may agree that additional conferral with descendants is necessary to consider culturally appropriate treatment of multiple Native American human remains. Culturally appropriate treatment of such a discovery may be ascertained from review of the site utilizing cultural and archaeological standards. Where the parties are unable to agree on the appropriate treatment measures the human remains and items associated and buried with Native American human remains shall be reinterred with appropriate dignity, pursuant to Section 5.c., above.

D. If Human Remains are **NOT** Native American
   1. The PI shall contact the Medical Examiner and notify them of the historic era context of the burial.
   2. The Medical Examiner will determine the appropriate course of action with the PI and City staff (PRC 5097.98).
   3. If the remains are of historic origin, they shall be appropriately removed and conveyed to the San Diego Museum of Man for analysis. The decision for internment of the human remains shall be made in consultation with MMC, EAS, the applicant/landowner, any known descendant group, and the San Diego Museum of Man.

V. Night and/or Weekend Work

A. If night and/or weekend work is included in the contract
   1. When night and/or weekend work is included in the contract package, the extent and timing shall be presented and discussed at the precon meeting.
   2. The following procedures shall be followed.
      a. No Discoveries
         In the event that no discoveries were encountered during night and/or weekend work, the PI shall record the information on the CSVR and submit to MMC via fax by 8AM of the next business day.
      b. Discoveries
         All discoveries shall be processed and documented using the existing procedures detailed in Sections III - During Construction, and IV – Discovery of Human Remains. Discovery of human remains shall always be treated as a significant discovery.
      c. Potentially Significant Discoveries
         If the PI determines that a potentially significant discovery has been made, the procedures detailed under Section III - During Construction and IV-Discovery of Human Remains shall be followed.
      d. The PI shall immediately contact the RE and MMC, or by 8AM of the next business day to report and discuss the findings as indicated in Section III-B, unless other specific arrangements have been made.

B. If night and/or weekend work becomes necessary during the course of construction
   1. The Construction Manager shall notify the RE, or BI, as appropriate, a minimum of 24 hours before the work is to begin.
   2. The RE, or BI, as appropriate, shall notify MMC immediately.

C. All other procedures described above shall apply, as appropriate.

VI. Post Construction

A. Submittal of Draft Monitoring Report
   1. The PI shall submit two copies of the Draft Monitoring Report (even if negative), prepared in accordance with the Historical Resources Guidelines (Appendix C/D) which describes the results, analysis, and conclusions of all phases of the Archaeological Monitoring Program (with appropriate graphics) to MMC via the RE for review and approval within 90 days following the completion of monitoring. **It should be noted that if the PI is unable to submit the Draft Monitoring Report within the allotted 90-day timeframe as a result of delays with analysis, special study results or other complex issues, a schedule shall be submitted to MMC establishing agreed due dates and the provision for submittal of monthly status reports until this measure can be met.**
      a. For significant archaeological resources encountered during monitoring, the Archaeological Data Recovery Program or Pipeline Trenching Discovery Process shall be included in the Draft Monitoring Report.
      b. Recording Sites with State of California Department of Parks and Recreation
         The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) any significant or potentially significant resources encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines, and submittal of such forms to the South Coastal Information Center with the Final Monitoring Report.

2. MMC shall return the Draft Monitoring Report to the PI via the RE for revision or, for preparation of the Final Report.
3. The PI shall submit revised Draft Monitoring Report to MMC via the RE for approval.
4. MMC shall provide written verification to the PI of the approved report.
5. MMC shall notify the RE or BI, as appropriate, of receipt of all Draft Monitoring Report submittals and approvals.

B. Handling of Artifacts
1. The PI shall be responsible for ensuring that all cultural remains collected are cleaned and catalogued
2. The PI shall be responsible for ensuring that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; and that specialty studies are completed, as appropriate.

C. Curation of artifacts: Accession Agreement and Acceptance Verification
1. The PI shall be responsible for ensuring that all artifacts associated with the survey, testing and/or data recovery for this project are permanently curated with an appropriate institution. This shall be completed in consultation with MMC and the Native American representative, as applicable.
2. When applicable to the situation, the PI shall include written verification from the Native American consultant/monitor indicating that Native American resources were treated in accordance with state law and/or applicable agreements. If the resources were reinterred, verification shall be provided to show what protective measures were taken to ensure no further disturbance occurs in accordance with Section IV – Discovery of Human Remains, Subsection C.
3. The PI shall submit the Accession Agreement and catalogue record(s) to the RE or BI, as appropriate for donor signature with a copy submitted to MMC.
4. The RE or BI, as appropriate shall obtain signature on the Accession Agreement and shall return to PI with copy submitted to MMC.
5. The PI shall include the Acceptance Verification from the curation institution in the Final Monitoring Report submitted to the RE or BI and MMC.

D. Final Monitoring Report(s)
1. The PI shall submit one copy of the approved Final Monitoring Report to the RE or BI as appropriate, and one copy to MMC (even if negative), within 90 days after notification from MMC of the approved report.
2. The RE shall, in no case, issue the Notice of Completion until receiving a copy of the approved Final Monitoring Report from MMC which includes the Acceptance Verification from the curation institution.

C. 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. 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. 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. c. MMC shall notify the PI that the PME has been approved.

d. 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 can not 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.

D. HISTORICAL RESOURCES (BUILT ENVIRONMENT)

When a future project requires implementation of this mitigation measure, the following paragraph shall be included in the subsequent environmental document and applicable Historic District name, boundary and district guidelines, if applicable shall be inserted as noted below in [brackets]:

The project is located within the [[insert District name]] Historic District, bounded by [[enter District boundary]] All work within the District boundary must be consistent with the City's Historical Resources Regulations, the U.S. Secretary of the Interior's Standards and the [[enter district guidelines if applicable]] District Design Guidelines. The following mitigation measures are required within the District boundary and shall ensure consistency with these regulations, Standards and guidelines.

A. Prior to beginning any work at the site, a Pre Construction meeting that includes Historic Resources and MMC staff shall be held at the project site to review these mitigation measures and requirements within the District boundary.

B. A Historic Sidewalk Stamp Inventory prepared by a qualified historic consultant or archaeologist and approved by HRB staff is required prior to the Pre-Construction (Pre-Con) meeting. The Inventory shall include photo documentation of all existing stamps within the project area keyed to a project site plan.

C. Existing sidewalk stamps shall be preserved in place. Where existing sidewalk stamps must be impacted to accommodate right-of-way improvements, the following actions are required:

1. A mold of the sidewalk stamp will be made to allow reconstruction of the stamp if destroyed during relocation.
2. The sidewalk stamp shall be saw-cut to preserve the stamp in its entirety; relocated as near as possible to the original location; and set in the same orientation.
3. If the sidewalk stamp is destroyed during relocation, a new sidewalk stamp shall be made from the mold taken and relocated as near as possible to the original location and set in the same orientation.

D. No new sidewalk stamps shall be added by any contactor working on the project.

E. Existing historic sidewalk, parkway and street widths shall be maintained. Any work that requires alteration of these widths shall be approved by Historic Resources staff.

F. Existing historic curb heights and appearance shall be maintained. Any work that requires alteration of the existing height or appearance shall be approved by Historic Resources staff.

G. Sections of sidewalk which may be impacted by the project shall be replaced in-kind to match the historic color, texture and scoring pattern of the original sidewalks. If the original color, scoring pattern or texture is not present at the location of the impact, the historically appropriate color, texture and scoring pattern found throughout the district shall be used.

H. Truncated domes used at corner curb ramps shall be dark gray in color.

I. Existing historic lighting, such as acorn lighting shall remain. New lighting shall be consistent with existing lighting fixtures, or fixtures specified in any applicable District Design Guidelines.

J. Existing mature street trees shall remain. New street trees shall be consistent with the prevalent mature species in the District and/or species specified in any applicable District Design Guidelines.

K. Any walls located within the right-of-way or on private property are considered historic and may not be impacted without prior review and approval by Historic Resources staff.

VI. PUBLIC REVIEW DISTRIBUTION:

Draft copies or notice of this Mitigated Negative Declaration were distributed to:

United States Government
- Fish and Wildlife Service (23)
- MCAS Miramar (13)
- Naval Facilities Engineering Command Southwest (8)

State of California
- Department of Fish and Game (32A)
- State Clearing House (46)
- Resources Agency (43)
- Native American Heritage Commission (56)
- State Historic Preservation Officer (41)
- Regional Water Quality Control Board (44)
- Water Resources (45)
- Water Resources Control Board (55)
- Coastal Commission (48)
- Caltrans District 11 (31)

County of San Diego
- Department of Environmental Health (75)
- Planning and Land Use (68)
- Water Authority (73)

City of San Diego
- Office of the Mayor (91)
- Council President Young, District 4 (MS 10A)
- Councilmember Lightner, District 1 (MS 10A)
- Councilmember Faulconer, District 2 (MS 10A)
- Councilmember Gloria, District 3 (MS 10A)
- Councilmember DeMaio, District 5 (MS 10A)

Councilmember Zapf, District 6 (MS 10A)
Councilmember Emerald, District 7 (MS 10A)
Councilmember Alvarez, District 8 (MS 10A)
Historical Resource Board (87)
City Attorney (MS 56A)
Shannon Thomas (MS 93C)
Engineering and Capital Projects
Marc Cass (MS 908A)
Allison Sherwood (MS 908A)
Matthew DeBeliso (MS 908A)
Akram Bassyouni (MS 908A)
Michael Ninh (MS 908A)
Roman Anissi (MS 908A)
Daniel Tittle (MS 908A)
Development Services Department
Myra Herrmann (MS 501)
Kristen Forburger (MS 401)
Jeanne Krosch (MS 401)
Kelley Stanco (MS 501)
Library Dept.-Gov. Documents MS 17 (81)
Balboa Branch Library (81B)
Beckwourth Branch Library (81C)
Benjamin Branch Library (81D)
Carmel Mountain Ranch Branch (81E)
Carmel Valley Branch Library (81F)
City Heights/Weingart Branch Library (81G)
Clairemont Branch Library (81H)
College-Rolando Branch Library (81I)
Kensington-Normal Heights Branch Library (81K)
La Jolla/Riford branch Library (81L)
Linda Vista Branch Library (81M)
Logan Heights Branch Library (81N)
Malcolm X Library & Performing Arts Center (81O)
Mira Mesa Branch Library (81P)
Mission Hills Branch Library (81Q)
Mission Valley Branch Library (81R)
North Clairemont Branch Library (81S)
North Park Branch Library (81T)
Oak Park Branch Library (81U)
Ocean Beach Branch Library (81V)
Otay Mesa-Nestor Branch Library (81W)
Pacific Beach/Taylor Branch Library (81X)
Paradise Hills Branch Library (81Y)
Point Loma/Hervey Branch Library (81Z)
Rancho Bernardo Branch Library (81AA)
Rancho Peñasquitos Branch Library (81BB)
San Carlos Branch Library (81DD)
San Ysidro Branch Library (81EE)
Scripps Miramar Ranch Branch Library (81FF)

Serra Mesa Branch Library (81GG)
Skyline Hills Branch Library (81HH)
Tierrasanta Branch Library (81II)
University Community Branch Library (81JJ)
University Heights Branch Library (81KK)
Malcolm A. Love Library (457)

Other Interested Individuals or Groups

Community Planning Groups

Community Planners Committee (194)
Balboa Park Committee (226 + 226A)
Black Mountain Ranch –Subarea I (226C)
Otay Mesa - Nestor Planning Committee (228)
Otay Mesa Planning Committee (235)
Clairemont Mesa Planning Committee (248)
Greater Golden Hill Planning Committee (259)
Serra Mesa Planning Group (263A)
Kearny Mesa Community Planning Group (265)
Linda Vista Community Planning Committee (267)
La Jolla Community Planning Association (275)
City Heights Area Planning Committee (287)
Kensington-Talmadge Planning Committee (290)
Normal Heights Community Planning Committee (291)
Eastern Area Planning Committee (302)
North Bay Community Planning Group (307)
Mira Mesa Community Planning Group (310)
Mission Beach Precise Planning Board (325)
Mission Valley Unified Planning Organization (331)
Navajo Community Planners Inc. (336)
Carmel Valley Community Planning Board (350)
Del Mar Mesa Community Planning Board (361)
Greater North Park Planning Committee (363)
Ocean Beach Planning Board (367)
Old Town Community Planning Committee (368)
Pacific Beach Community Planning Committee (375)
Pacific Highlands Ranch – Subarea III (377A)
Rancho Peñasquitos Planning Board (380)
Peninsula Community Planning Board (390)
Rancho Bernardo Community Planning Board (400)
Sabre Springs Community Planning Group (406B)
Sabre Springs Community Planning Group (407)
San Pasqual - Lake Hodges Planning Group (426)
San Ysidro Planning and Development Group (433)
Scripps Ranch Community Planning Group (437)
Miramar Ranch North Planning Committee (439)
Skyline - Paradise Hills Planning Committee (443)
Torrey Hills Community Planning Board (444A)
Southeastern San Diego Planning Committee (449)
Encanto Neighborhoods Community Planning Group (449A)

College Area Community Council (456)
Tierrasanta Community Council (462)
Torrey Highlands – Subarea IV (467)
Torrey Pines Community Planning Group (469)
University City Community Planning Group (480)
Uptown Planners (498)

Town/Community Councils - PUBLIC NOTICE ONLY
Town Council Presidents Association (197)
Harborview Community Council (246)
Carmel Mountain Ranch Community Council (344)
Clairemont Town Council (257)
Serra Mesa Community Council (264)
Rolando Community Council (288)
Oak Park Community Council (298)
Webster Community Council (301)
Darnell Community Council (306)
La Jolla Town Council (273)
Mission Beach Town Council (326)
Mission Valley Community Council (328 C)
San Carlos Area Council (338)
Ocean Beach Town Council, Inc. (367 A)
Pacific Beach Town Council (374)
Rancho Penasquitos Community Council (378)
Rancho Bernardo Community Council, Inc. (398)
Rancho Penasquitos Town Council (383)
United Border Community Town Council (434)
San Dieguito Planning Group (412)
Murphy Canyon Community Council (463)

Other Interested Individuals or Groups
San Diego Unified Port District (109)
San Diego County Regional Airport Authority (110)
San Diego transit Corporation (112)
San Diego Gas & Electric (114)
Metropolitan Transit Systems (115)
San Diego Unified School District (125/132)
San Ysidro Unified School District (127)
San Diego Community College District (133)
The Beach and Bay Beacon News (137)
Sierra Club (165)
San Diego Canyonlands (165A)
San Diego Natural History Museum (166)
San Diego Audubon Society (167)
Jim Peugh (167A)
California Native Plant Society (170)
San Diego Coastkeeper (173)
Endangered Habitat League (182 and 182A)
South Coastal Information Center @ San Diego State University (210)

San Diego Historical Society (211)
Carmen Lucas (206)
Clint Linton (215b)
San Diego Archaeological Center (212)
Save Our Heritage Organization (214)
Ron Christman (215)
Louie Guassac (215A)
San Diego County Archaeological Society (218)
Kumeyaay Cultural Heritage Preservation (223)
Kumeyaay Cultural Repatriation Committee (225)
Native American Distribution (NOTICE ONLY 225A-T)
San Diego Historical Society (211)
Theresa Acerro (230)
Unified Port of San Diego (240)
Centre City Development Corporation (242)
Centre City Advisory Committee (243)
Balboa Avenue CAC (246)
Theresa Quiros (294)
Fairmount Park Neighborhood Association (303)
John Stump (304)
San Diego Baykeeper (319)
Debbie Knight (320)
Mission Hills Heritage (497)

VII. RESULTS OF PUBLIC REVIEW:

( ) No comments were received during the public input period.

( ) Comments were received but did not address the draft Mitigated Negative Declaration finding or the accuracy/completeness of the Initial Study. No response is necessary. The letters are attached.

(x) Comments addressing the findings of the draft Mitigated Negative Declaration and/or accuracy or completeness of the Initial Study were received during the public input period. The letters and responses follow.

Copies of the draft Mitigated Negative Declaration, the Mitigation, Monitoring and Reporting Program and any Initial Study material are available in the office of the Entitlements Division for review, or for purchase at the cost of reproduction.

Myra Herrmann, Senior Planner
Development Services Department

September 14, 2011
Date of Draft Report

October 24, 2011
Date of Final Report

Analysts; J. Szymanski/M. Herrmann

Attachments:
Figure 1 - Harbor Drive Pipeline Location Map
Figure 2 - Water Group 949 Site 1 Location Map
Figure 3- Water Group 949 Site 2 Location Map
Figure 4- Water Group 949 Site 3 Location Map
Figure 5- Sewer Group 787 Location Map
Figure 6- Water Group 914 Location Map
Figure 7- Sewer and Water Group 732 Location Map
Figure 8- Water Group 949-Site 2 with the MHPA
Initial Study Checklist

WATER AND SEWER GROUP JOB 965 PROJECT
ADDENDUM TO MITIGATED NEGATIVE DECLARATION NO. 255100
(Project No. 578855)
AND
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

ADOPTED ON November 14, 2017

WHEREAS, on October 12, 2017, 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 965 project (Project), for approval of minor technical changes or additions to the Citywide Pipeline Projects scope that was analyzed by adopted Mitigated Negative Declaration No. 255100; 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 November 14, 2017; and

WHEREAS, on November 14, 2017, the Deputy Director of the Development Services considered the issues discussed in Addendum to Mitigated Negative Declaration No. 255100 (Declaration), a copy of which is on file in the Development Services Department, in accordance 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.); and

WHEREAS, State CEQA Guidelines section 15164(a) allows a lead agency to prepare an Addendum to a final Mitigated Negative Declaration if such Addendum meets the requirements of CEQA; NOW, THEREFORE,

BE IT RESOLVED, by the Deputy Director of the Development Services Department of the City of San Diego as follows:

1. That the information contained in the final Mitigated Negative Declaration No. 255100 along with the Addendum thereto, including any comments received during the public review process, has been reviewed and considered by this Deputy Director of the Development Services Department prior to making a decision on the Project.

2. That there are no substantial changes proposed to the Project and no substantial changes with respect to the circumstances under which the Project is to be undertaken that would require major revisions in the Mitigated Negative Declaration for the Project.

3. That no new information of substantial importance has become available showing that the Project would have any significant effects not discussed previously in Mitigated Negative Declaration or that any significant effects previously examined will be substantially more severe than shown in the Mitigated Negative Declaration.

4. That no new information of substantial importance has become available showing that mitigation measures or alternatives previously found not to be feasible are in fact feasible which would substantially reduce any significant effects, but that the Project proponents decline to adopt, or that there are any considerably different mitigation measures or alternatives not previously considered which would substantially reduce any significant effects, but that the Project proponents decline to adopt.

5. That pursuant to State CEQA Guidelines Section 15164, only minor technical changes or additions are necessary, and therefore, the Deputy Director of the Development Services Department adopts Addendum to Mitigated Negative Declaration No. 255100 with respect to the Project, a copy of which is on file in the office of the Development Services Department.

6. That pursuant to CEQA Section 21081.6, the Deputy Director of the Development Services Department adopts the Mitigation Monitoring and Reporting Program, or alterations to implement the changes to the project as required by this Deputy Director of the Development Services Department in order to mitigate or avoid significant effects on the environment, which is attached hereto as Exhibit A.

7. That DEVELOPMENT SERVICES STAFF is directed to file a Notice of Determination with the Clerk of the Board of Supervisors for the County of San Diego regarding the Project.

APPROVED: Kerry Santoro, Deputy Director, Development Services Department

By: Kerry Santoro Date: November 13, 2017

ATTACHMENT: EXHIBIT A – MITIGATION MONITORING AND REPORTING PROGRAM

EXHIBIT A

MITIGATION MONITORING AND REPORTING PROGRAM
WATER AND SEWER GROUP JOB 965 PROJECT
PROJECT NO. 578855

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 Entitlements Division, 1222 First Avenue, Fifth Floor, San Diego, CA, 92101.

Historical Resources (Archaeology)

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. <u>During Construction</u>

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. <u>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.</u>

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 (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 Archaeological Monitor shall direct the contractor to temporarily divert all soil disturbing activities, including but not limited to digging, trenching, excavating or grading activities in the area of discovery and in the area reasonably suspected to overlay adjacent resources and immediately notify the RE or BI, as appropriate.
2. The Monitor shall immediately notify the PI (unless Monitor is the PI) of the discovery.
3. The PI shall immediately notify MMC by phone of the discovery, and shall also submit written documentation to MMC within 24 hours by fax or email with photos of the resource in context, if possible.
4. No soil shall be exported off-site until a determination can be made regarding the significance of the resource specifically if Native American resources are encountered.

C. Determination of Significance
1. The PI and Native American consultant/monitor, where Native American resources are discovered shall evaluate the significance of the resource. If Human Remains are involved, follow protocol in Section IV below.
   a. The PI shall immediately notify MMC by phone to discuss significance determination and shall also submit a letter to MMC indicating whether additional mitigation is required.
   b. If the resource is significant, the PI shall submit an Archaeological Data Recovery Program (ADRP) and obtain written approval of the program from MMC, CM and RE. ADRP and any mitigation must be approved by MMC, RE and/or CM before ground disturbing activities in the area of discovery will be allowed to resume. Note: If a unique archaeological site is also an historical resource as defined in CEQA Section 15064.5, then the limits on the amount(s) that a project applicant may be required to pay to cover mitigation costs as indicated in CEQA Section 21083.2 shall not apply.

(1). Note: For pipeline trenching and other linear projects in the public Right-of-Way, the PI shall implement the Discovery Process for Pipeline Trenching projects identified below under "D."

c. If the resource is not significant, the PI shall submit a letter to MMC indicating that artifacts will be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that that no further work is required.

(1). Note: For Pipeline Trenching and other linear projects in the public Right-of-Way, if the deposit is limited in size, both in length and depth; the information value is limited and is not associated with any other resource; and there are no unique features/artifacts associated with the deposit, the discovery should be considered not significant.

(2). Note, for Pipeline Trenching and other linear projects in the public Right-of-Way, if significance cannot be determined, the Final Monitoring Report and Site Record (DPR Form 523A/B) shall identify the discovery as Potentially Significant.

D. Discovery Process for Significant Resources - Pipeline Trenching and other Linear Projects in the Public Right-of-Way

The following procedure constitutes adequate mitigation of a significant discovery encountered during pipeline trenching activities or for other linear project types within the Public Right-of-Way including but not limited to excavation for jacking pits, receiving pits, laterals, and manholes to reduce impacts to below a level of significance:

1. Procedures for documentation, curation and reporting
   a. One hundred percent of the artifacts within the trench alignment and width shall be documented in-situ, to include photographic records, plan view of the trench and profiles of side walls, recovered, photographed after cleaning and analyzed and curated. The remainder of the deposit within the limits of excavation (trench walls) shall be left intact.
   b. The PI shall prepare a Draft Monitoring Report and submit to MMC via the RE as indicated in Section VI-A.
   c. The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) the resource(s) encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines. The DPR forms shall be submitted to the South Coastal Information Center for either a Primary Record or SDI Number and included in the Final Monitoring Report.
   d. The Final Monitoring Report shall include a recommendation for monitoring of any future work in the vicinity of the resource.

IV. Discovery of Human Remains

If human remains are discovered, work shall halt in that area and no soil shall be exported off-site until a determination can be made regarding the provenance of the human remains; and the following procedures as set forth in CEQA Section 15064.5(e), the California Public Resources Code (Sec. 5097.98) and State Health and Safety Code (Sec. 7050.5) shall be undertaken:

A. Notification

1. Archaeological Monitor shall notify the RE or BI as appropriate, MMC, and the PI, if the Monitor is not qualified as a PI. MMC will notify the appropriate Senior Planner in the Environmental Analysis Section (EAS) of the Development Services Department to assist with the discovery notification process.
2. The PI shall notify the Medical Examiner after consultation with the RE, either in person or via telephone.

B. Isolate discovery site
1. Work shall be directed away from the location of the discovery and any nearby area reasonably suspected to overlay adjacent human remains until a determination can be made by the Medical Examiner in consultation with the PI concerning the provenience of the remains.
2. The Medical Examiner, in consultation with the PI, will determine the need for a field examination to determine the provenience.
3. If a field examination is not warranted, the Medical Examiner will determine with input from the PI, if the remains are or are most likely to be of Native American origin.

C. If Human Remains **ARE** determined to be Native American
1. The Medical Examiner will notify the Native American Heritage Commission (NAHC) within 24 hours. By law, **ONLY** the Medical Examiner can make this call.
2. NAHC will immediately identify the person or persons determined to be the Most Likely Descendent (MLD) and provide contact information.
3. The MLD will contact the PI within 24 hours or sooner after the Medical Examiner has completed coordination, to begin the consultation process in accordance with CEQA Section 15064.5(e), the California Public Resources and Health & Safety Codes.
4. The MLD will have 48 hours to make recommendations to the property owner or representative, for the treatment or disposition with proper dignity, of the human remains and associated grave goods.
5. Disposition of Native American Human Remains will be determined between the MLD and the PI, and, if:
   a. The NAHC is unable to identify the MLD, OR the MLD failed to make a recommendation within 48 hours after being notified by the Commission, OR;
   b. The landowner or authorized representative rejects the recommendation of the MLD and mediation in accordance with PRC 5097.94 (k) by the NAHC fails to provide measures acceptable to the landowner, THEN
   c. To protect these sites, the landowner shall do one or more of the following:
      (1) Record the site with the NAHC;
      (2) Record an open space or conservation easement; or
      (3) Record a document with the County.
   d. Upon the discovery of multiple Native American human remains during a ground disturbing land development activity, the landowner may agree that additional conferral with descendants is necessary to consider culturally appropriate treatment of multiple Native American human remains. Culturally appropriate treatment of such a discovery may be ascertained from review of the site utilizing cultural and archaeological standards. Where the parties are unable to agree on the appropriate treatment measures the human remains and items

associated and buried with Native American human remains shall be reinterred with appropriate dignity, pursuant to Section 5.c., above.

D. If Human Remains are **NOT** Native American
   1. The PI shall contact the Medical Examiner and notify them of the historic era context of the burial.
   2. The Medical Examiner will determine the appropriate course of action with the PI and City staff (PRC 5097.98).
   3. If the remains are of historic origin, they shall be appropriately removed and conveyed to the San Diego Museum of Man for analysis. The decision for internment of the human remains shall be made in consultation with MMC, EAS, the applicant/landowner, any known descendant group, and the San Diego Museum of Man.

V. Night and/or Weekend Work

A. If night and/or weekend work is included in the contract
   1. When night and/or weekend work is included in the contract package, the extent and timing shall be presented and discussed at the precon meeting.
   2. The following procedures shall be followed.
      a. No Discoveries
         In the event that no discoveries were encountered during night and/or weekend work, the PI shall record the information on the CSVR and submit to MMC via fax by 8AM of the next business day.
      b. Discoveries
         All discoveries shall be processed and documented using the existing procedures detailed in Sections III - During Construction, and IV – Discovery of Human Remains. Discovery of human remains shall always be treated as a significant discovery.
      c. Potentially Significant Discoveries
         If the PI determines that a potentially significant discovery has been made, the procedures detailed under Section III - During Construction and IV-Discovery of Human Remains shall be followed.
      d. The PI shall immediately contact the RE and MMC, or by 8AM of the next business day to report and discuss the findings as indicated in Section III-B, unless other specific arrangements have been made.

B. If night and/or weekend work becomes necessary during the course of construction
   1. The Construction Manager shall notify the RE, or BI, as appropriate, a minimum of 24 hours before the work is to begin.
   2. The RE, or BI, as appropriate, shall notify MMC immediately.

C. All other procedures described above shall apply, as appropriate.

VI. Post Construction

A. Submittal of Draft Monitoring Report
   1. The PI shall submit two copies of the Draft Monitoring Report (even if negative), prepared in accordance with the Historical Resources Guidelines (Appendix C/D) which describes the results, analysis, and conclusions of all phases of the Archaeological Monitoring Program (with appropriate graphics) to MMC via the RE for review and approval within 90 days following the completion of monitoring. It

should be noted that if the PI is unable to submit the Draft Monitoring Report within the allotted 90-day timeframe as a result of delays with analysis, special study results or other complex issues, a schedule shall be submitted to MMC establishing agreed due dates and the provision for submittal of monthly status reports until this measure can be met.

   a. For significant archaeological resources encountered during monitoring, the Archaeological Data Recovery Program or Pipeline Trenching Discovery Process shall be included in the Draft Monitoring Report.
   b. Recording Sites with State of California Department of Parks and Recreation The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) any significant or potentially significant resources encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines, and submittal of such forms to the South Coastal Information Center with the Final Monitoring Report.

2. MMC shall return the Draft Monitoring Report to the PI via the RE for revision or, for preparation of the Final Report.
3. The PI shall submit revised Draft Monitoring Report to MMC via the RE for approval.
4. MMC shall provide written verification to the PI of the approved report.
5. MMC shall notify the RE or BI, as appropriate, of receipt of all Draft Monitoring Report submittals and approvals.

B. Handling of Artifacts
   1. The PI shall be responsible for ensuring that all cultural remains collected are cleaned and catalogued
   2. The PI shall be responsible for ensuring that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; and that specialty studies are completed, as appropriate.

C. Curation of artifacts: Accession Agreement and Acceptance Verification
   1. The PI shall be responsible for ensuring that all artifacts associated with the survey, testing and/or data recovery for this project are permanently curated with an appropriate institution. This shall be completed in consultation with MMC and the Native American representative, as applicable.
   2. When applicable to the situation, the PI shall include written verification from the Native American consultant/monitor indicating that Native American resources were treated in accordance with state law and/or applicable agreements. If the resources were reinterred, verification shall be provided to show what protective measures were taken to ensure no further disturbance occurs in accordance with Section IV – Discovery of Human Remains, Subsection C.
   3. The PI shall submit the Accession Agreement and catalogue record(s) to the RE or BI, as appropriate for donor signature with a copy submitted to MMC.
   4. The RE or BI, as appropriate shall obtain signature on the Accession Agreement and shall return to PI with copy submitted to MMC.
   5. The PI shall include the Acceptance Verification from the curation institution in the Final Monitoring Report submitted to the RE or BI and MMC.

D. Final Monitoring Report(s)

1. The PI shall submit one copy of the approved Final Monitoring Report to the RE or BI as appropriate, and one copy to MMC (even if negative), within 90 days after notification from MMC of the approved report.
2. The RE shall, in no case, issue the Notice of Completion until receiving a copy of the approved Final Monitoring Report from MMC which includes the Acceptance Verification from the curation institution.

Land Use [Multiple Species Conservation Program (MSCP) For Projects within 100 feet of the MHPA]

I. **Prior to issuance of any construction permit or notice to proceed,** DSD/ LDR, and/or MSCP staff shall verify the Applicant has accurately represented the project's design in or on the Construction Documents (CD's/CD's consist of Construction Plan Sets for Private Projects and Contract Specifications for Public Projects) are in conformance with the associated discretionary permit conditions and Exhibit "A", and also the City's Multi-Species Conservation Program (MSCP) Multi-Habitat Planning Area (MHPA) Land Use Adjacency Guidelines. The applicant shall provide an implementing plan and include references on/in CD's of the following:

1. **Grading/Land Development/MHPA Boundaries** - MHPA boundaries on-site and adjacent properties shall be delineated on the CDs. DSD Planning and/or MSCP staff shall ensure that all grading is included within the development footprint, specifically manufactured slopes, disturbance, and development within or adjacent to the MHPA. For projects within or adjacent to the MHPA, all manufactured slopes associated with site development shall be included within the development footprint.

2. **Drainage** - All new and proposed parking lots and developed areas in and adjacent to the MHPA shall be designed so they do not drain directly into the MHPA. All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials prior to release by incorporating the use of filtration devices, planted swales and/or planted detention/ desiltation basins, or other approved permanent methods that are designed to minimize negative impacts, such as excessive water and toxins into the ecosystems of the MHPA.

3. **Toxics/Project Staging Areas/Equipment Storage** - Projects that use chemicals or generate by-products such as pesticides, herbicides, and animal waste, and other substances that are potentially toxic or impactive to native habitats/flora/fauna (including water) shall incorporate measures to reduce impacts caused by the application and/or drainage of such materials into the MHPA. No trash, oil, parking, or other construction/development-related material/activities shall be allowed outside any approved construction limits. Where applicable, this requirement shall incorporated into leases on publicly-owned property when applications for renewal occur. Provide a note in/on the CD's that states: "All construction related activity that may have potential for leakage or intrusion shall be monitored by the Qualified Biologist/Owners Representative or Resident Engineer to ensure there is no impact

to the MHPA."

4. **Lighting** - Lighting within or adjacent to the MHPA shall be directed away/shielded from the MHPA and be subject to City Outdoor Lighting Regulations per LDC Section 142.0740.

5. **Barriers** - New development within or adjacent to the MHPA shall be required to provide barriers (e.g., non-invasive vegetation; rocks/boulders; 6-foot high, vinyl-coated chain link or equivalent fences/walls; and/or signage) along the MHPA boundaries to direct public access to appropriate locations, reduce domestic animal predation, protect wildlife in the preserve, and provide adequate noise reduction where needed.

6. **Invasives-** No invasive non-native plant species shall be introduced into areas within or adjacent to the MHPA.

7. **Noise -** Due to the site's location adjacent to or within the MHPA where the Qualified Biologist has identified potential nesting habitat for listed avian species, construction noise that exceeds the maximum levels allowed shall be avoided during the breeding seasons for the following: California Gnatcatcher (3/1-8/15). If construction is proposed during the breeding season for the species, U.S. Fish and Wildlife Service protocol surveys shall be required in order to determine species presence/absence. If protocol surveys are not conducted in suitable habitat during the breeding season for the aforementioned listed species, presence shall be assumed with implementation of noise attenuation and biological monitoring.

When applicable (i.e., habitat is occupied or if presence of the covered species is assumed), adequate noise reduction measures shall be incorporated as follows:

COASTAL CALIFORNIA GNATCATCHER (Federally Threatened)

1. Prior to the preconstruction meeting, the City Manager (or appointed designee) shall verify that the Multi-Habitat Planning Area (MHPA) boundaries and the following project requirements regarding the coastal California gnatcatcher are shown on the construction plans:

   NO CLEARING, GRUBBING, GRADING, OR OTHER CONSTRUCTION ACTIVITIES SHALL OCCUR BETWEEN MARCH 1 AND AUGUST 15, THE BREEDING SEASON OF THE COASTAL CALIFORNIA GNATCATCHER, UNTIL THE FOLLOWING REQUIREMENTS HAVE BEEN MET TO THE SATISFACTION OF THE CITY MANAGER:

   A. A QUALIFIED BIOLOGIST (POSSESSING A VALID ENDANGERED SPECIES ACT SECTION 10(a)(1)(A) RECOVERY PERMIT) SHALL SURVEY THOSE HABITAT AREAS WITHIN THE MHPA THAT WOULD BE SUBJECT TO CONSTRUCTION NOISE LEVELS EXCEEDING 60 DECIBELS [dB(A)] HOURLY AVERAGE FOR THE PRESENCE OF THE COASTAL CALIFORNIA GNATCATCHER. SURVEYS FOR THE COASTAL CALIFORNIA

GNATCATCHER SHALL BE CONDUCTED PURSUANT TO THE PROTOCOL SURVEY GUIDELINES ESTABLISHED BY THE U.S. FISH AND WILDLIFE SERVICE WITHIN THE BREEDING SEASON PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. IF GNATCATCHERS ARE PRESENT, THEN THE FOLLOWING CONDITIONS MUST BE MET:

I. BETWEEN MARCH 1 AND AUGUST 15, NO CLEARING, GRUBBING, OR GRADING OF OCCUPIED GNATCATCHER HABITAT SHALL BE PERMITTED. AREAS RESTRICTED FROM SUCH ACTIVITIES SHALL BE STAKED OR FENCED UNDER THE SUPERVISION OF A QUALIFIED BIOLOGIST; AND

II. BETWEEN MARCH 1 AND AUGUST 15, NO CONSTRUCTION ACTIVITIES SHALL OCCUR WITHIN ANY PORTION OF THE SITE WHERE CONSTRUCTION ACTIVITIES WOULD RESULT IN NOISE LEVELS EXCEEDING 60 dB (A) HOURLY AVERAGE AT THE EDGE OF OCCUPIED GNATCATCHER HABITAT. AN ANALYSIS SHOWING THAT NOISE GENERATED BY CONSTRUCTION ACTIVITIES WOULD NOT EXCEED 60 dB (A) HOURLY AVERAGE AT THE EDGE OF OCCUPIED HABITAT MUST BE COMPLETED BY A QUALIFIED ACOUSTICIAN (POSSESSING CURRENT NOISE ENGINEER LICENSE OR REGISTRATION WITH MONITORING NOISE LEVEL EXPERIENCE WITH LISTED ANIMAL SPECIES) AND APPROVED BY THE CITY MANAGER AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES DURING THE BREEDING SEASON, AREAS RESTRICTED FROM SUCH ACTIVITIES SHALL BE STAKED OR FENCED UNDER THE SUPERVISION OF A QUALIFIED BIOLOGIST; OR

III. AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES, UNDER THE DIRECTION OF A QUALIFIED ACOUSTICIAN, NOISE ATTENUATION MEASURES (e.g., BERMS, WALLS) SHALL BE IMPLEMENTED TO ENSURE THAT NOISE LEVELS RESULTING FROM CONSTRUCTION ACTIVITIES WILL NOT EXCEED 60 dB(A) HOURLY AVERAGE AT THE EDGE OF HABITAT OCCUPIED BY THE COASTAL CALIFORNIA GNATCATCHER. CONCURRENT WITH THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES AND THE CONSTRUCTION OF NECESSARY NOISE ATTENUATION FACILITIES, NOISE MONITORING* SHALL BE CONDUCTED AT THE EDGE OF THE OCCUPIED HABITAT AREA TO ENSURE THAT NOISE LEVELS DO NOT EXCEED 60 dB (A) HOURLY AVERAGE. IF THE NOISE ATTENUATION TECHNIQUES IMPLEMENTED ARE DETERMINED TO BE INADEQUATE BY THE QUALIFIED ACOUSTICIAN OR BIOLOGIST, THEN THE ASSOCIATED CONSTRUCTION ACTIVITIES SHALL CEASE UNTIL SUCH TIME THAT ADEQUATE NOISE ATTENUATION IS ACHIEVED OR UNTIL THE END OF THE BREEDING SEASON (AUGUST 16).

* Construction noise monitoring shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the construction activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dB (A) hourly average or to the ambient noise level if it already exceeds 60 dB (A) hourly average. If not, other measures shall be implemented in consultation with the biologist and the City Manager, as necessary, to reduce noise levels to below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. Such measures may include, but are not limited to, limitations on the placement of construction equipment and the simultaneous use of equipment.

B. IF COASTAL CALIFORNIA GNATCATCHERS ARE NOT DETECTED DURING THE PROTOCOL SURVEY, THE QUALIFIED BIOLOGIST SHALL SUBMIT SUBSTANTIAL EVIDENCE TO THE CITY MANAGER AND APPLICABLE RESOURCE AGENCIES WHICH DEMONSTRATES WHETHER OR NOT MITIGATION MEASURES SUCH AS NOISE WALLS ARE NECESSARY BETWEEN MARCH 1 AND AUGUST 15 AS FOLLOWS:

I. IF THIS EVIDENCE INDICATES THE POTENTIAL IS HIGH FOR COASTAL CALIFORNIA GNATCATCHER TO BE PRESENT BASED ON HISTORICAL RECORDS OR SITE CONDITIONS, THEN CONDITION A.III SHALL BE ADHERED TO AS SPECIFIED ABOVE.

II. IF THIS EVIDENCE CONCLUDES THAT NO IMPACTS TO THIS SPECIES ARE ANTICIPATED, NO MITIGATION MEASURES WOULD BE NECESSARY.

II. Prior to Start of Construction

A. Preconstruction Meeting

The Qualified Biologist/Owner's Representative shall incorporate all MHPA construction related requirements, into the project's Biological Monitoring Exhibit (BME). The Qualified Biologist/Owner's Representative is responsible to arrange and perform a focused pre-con with all contractors, subcontractors, and all workers involved in grading or other construction activities that discusses the sensitive nature of the adjacent sensitive biological resources.

III. During Construction.

The Qualified Biologist/Owner's Representative, shall verify that all construction related activities taking place adjacent to the MHPA are consistent with the CDs, the Representative shall monitor and assure that:

1. **Grading/Land Development/MHPA Boundaries** - MHPA boundaries on-site and adjacent properties shall be delineated on the CDs. DSD Planning and/or MSCP staff shall ensure that all grading is included within the development footprint, specifically manufactured slopes, disturbance, and development within or adjacent to the MHPA. For projects within or adjacent to the MHPA, all manufactured slopes associated with site development shall be included within

the development footprint.

2. **Drainage** - All new and proposed parking lots and developed areas in and adjacent to the MHPA shall be designed so they do not drain directly into the MHPA. All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials prior to release by incorporating the use of filtration devices, planted swales and/or planted detention/ desiltation basins, or other approved permanent methods that are designed to minimize negative impacts, such as excessive water and toxins into the ecosystems of the MHPA.

3. **Toxics/Project Staging Areas/Equipment Storage** - Projects that use chemicals or generate by-products such as pesticides, herbicides, and animal waste, and other substances that are potentially toxic or impactive to native habitats/flora/fauna (including water) shall incorporate measures to reduce impacts caused by the application and/or drainage of such materials into the MHPA. No trash, oil, parking, or other construction/development-related material/activities shall be allowed outside any approved construction limits. Where applicable, this requirement shall incorporated into leases on publicly-owned property when applications for renewal occur. Provide a note in/on the CD's that states: "All construction related activity that may have potential for leakage or intrusion shall be monitored by the Qualified Biologist/Owners Representative or Resident Engineer to ensure there is no impact to the MHPA."

4. **Lighting** - Lighting within or adjacent to the MHPA shall be directed away/shielded from the MHPA and be subject to City Outdoor Lighting Regulations per LDC Section 142.0740.

5. **Barriers** - New development within or adjacent to the MHPA shall be required to provide barriers (e.g., non-invasive vegetation; rocks/boulders; 6-foot high, vinyl-coated chain link or equivalent fences/walls; and/or signage) along the MHPA boundaries to direct public access to appropriate locations, reduce domestic animal predation, protect wildlife in the preserve, and provide adequate noise reduction where needed.

6. **Invasives** - No invasive non-native plant species shall be introduced into areas within or adjacent to the MHPA.

7. **Noise** - Due to the site's location adjacent to or within the MHPA where the Qualified Biologist has identified potential nesting habitat for listed avian species, construction noise that exceeds the maximum levels allowed shall be avoided during the breeding seasons for the following: California Gnatcatcher (3/1-8/15). If construction is proposed during the breeding season for the species, U.S. Fish and Wildlife Service protocol surveys shall be required in order to determine species presence/absence. If protocol surveys are not conducted in suitable habitat during the breeding season for the aforementioned listed species, presence shall be assumed with implementation of noise attenuation and

biological monitoring.

IV. Post Construction

Preparation and Submittal of Monitoring Report. The Qualified Biologist/Owners Representative shall submit a final biological monitoring report to the RE/MMC within 30 days of the completion of construction that requires monitoring. The report shall incorporate the results of the MMRP/MSCP requirements per the construction documents and the BME to the satisfaction of the RE/MMC.

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.

The above mitigation monitoring and reporting program will require additional fees and/or deposits to be collected prior to the issuance of building permits, certificates of occupancy and/or final maps to ensure the successful completion of the monitoring program.

NOTICE OF DETERMINATION (SUBSEQUENT ACTION)

TO: _X_ Recorder/County Clerk
P.O. Box 1750, MS A33
1600 Pacific Hwy, Room 260
San Diego, CA 92101-2422

170192

FILED
Ernest J Dronenburg, Jr. Recorder County Clerk

DEC 06 2017

BY _____ DEPUTY

___ Office of Planning and Research
1400 Tenth Street, Room 121
Sacramento, CA 95814

FROM: City of San Diego
Development Services Department
1222 First Avenue, MS 501
San Diego, CA 92101

PROJECT NUMBER: 578855/WBS No. B-12048.02.01

STATE CLEARINGHOUSE NUMBER: 2011091045

PROJECT TITLE: Water and Sewer Group Job 965

DESCRIPTION OF PREVIOUS ACTION: The City of San Diego previously prepared a Mitigated Negative Declaration for the Citywide Pipelines project (Project No. 255100). The Mitigated Negative Declaration was certified by the City of San Diego City Council on November 30, 2011, Resolution No. 30712.

DESCRIPTION OF SUBSEQUENT ACTION: City of San Diego Development Services Department approval of Addendum to Mitigated Negative Declaration No. 255100 In association with a Public Project Assessment for the Water and Sewer Group Job 965 project.

PROJECT LOCATION: The project is located within the Torrey Pines Community Planning Area within Council District 1. The project site is situated west of Interstate 5 and will impact Sorrento Valley Road, Tripp Court, and Industrial Court see attached project map. All work would be located within the City's right-of-way.

PROJECT DESCRIPTION: Originally, the proposed scope of work included replace-in-place existing water and sewer mains without disturbing any previously disturbed soils and received environmental approval in the form of a CEQA exemption. However, during construction, it was deemed that the project requires new trenching. The proposed project includes replacement and installation of approximately 10,079 linear feet (LF) of water mains and sewer mains. Approximately 4,972 LF of existing 1-inch cooper bypass, 8-in, 10-in, 1-in, and 16-in Cast Iron, Cast Iron Cement Lined and Asbestos Cement water main, with new 12-in and 16-in polyvinyl chloride (PVC) water mains and replace-in-place approximately 5,107 LF of 8-in, 10-in, and 12-in vitrified clay (VC) sewer main. The replacement of these mains will require the open trench method of placement, which will required excavation to a depth of 5 feet for water and up to 12 feet for sewer, all soils have been previously disturbed except soil along 2,460 LF of new sewer main.

The project includes the construction of an above ground pressure reducing station (PRS) with the approximate vault size of 7 feet wide, 10 feet long, and 5 feet tall. Installation of the PRS will require removal of ornamental plants and buses, and excavation up to 18-inches deep in possibly undisturbed soil. The project may also include the following improvements: ADA compliant curb ramps, replumbing of water services and sewer laterals, installation of fire hydrants, street resurfacing, and any necessary lane painting. All construction staging would occur in the public right-of -way.

The Water and Sewer Group 965 project is part of the City of San Diego's on-going Sewer Main and Water Main Replacement Program. The existing sewer and water mains are old, and are nearing the end of their service life. Construction of the project will reduce maintenance requirements, correct hydraulic deficiencies, improve reliability and accessibility, and bring the sewer and water main systems up to current design standards.

PROJECT APPLICANT: Peter Fogec, Project Manager, City of San Diego Public Works Department. 525 B Street, Suite 750, San Diego, CA 92101. Contact: (619) 533-5118.

This is to advise that the City of San Diego Development Services Department on November 27, 2017 approved the above described project and made the following determinations:

1. The project in its approved form ___ will, _X_ will not, have a significant effect on the environment.

2. ___ An Environmental Impact Report was prepared for this project and certified pursuant to the provisions of CEQA.

___ A (Mitigated) Negative Declaration was prepared for this project pursuant to the provisions of CEQA.

_X_ An Addendum to Mitigated Negative Declaration No. 255100 was prepared for this project pursuant to the provisions of CEQA.

Record of project approval may be examined at the address above.

3. Mitigation measures _X_ were, ____ were not, made a condition of the approval of the project; and a mitigation monitoring and reporting program _X_ was, ____ was not, adopted for the project.

4. (EIR only) Findings ____ were, ____ were not, made pursuant to CEQA Guidelines Section 15091.

5. (EIR only) A Statement of Overriding Considerations ____ was, ____ was not, adopted for this project.

It is hereby certified that the final environmental report, including comments and responses, is available to the general public at the office of the Development Services Department, 1222 First Avenue, San Diego, CA 92101.

Analyst: Mark Brunette Telephone: (619) 446-5379

Filed by: _____
Signature

Senior Planner
Title

[Attach Copy of Check, Proof of CDFG Payment, "de Minimis" Certificate, or No Effect Form]
Reference: California Public Resources Code, Sections 21108 and 21152.

FILED IN THE OFFICE OF THE COUNTY CLERK
San Diego County on DEC 0 6 2017
Posted DEC 0 6 2017 Removed JAN 1 2 2018
Returned to agency on JAN 1 2 2018
Deputy R. Morris

State of California - Department of Fish and Wildlife

2017 ENVIRONMENTAL FILING FEE CASH RECEIPT

DFW 753.5a (Rev. 12/15/15) Previously DFG 753.5a

RECEIPT NUMBER:
37-2017- 1009
STATE CLEARINGHOUSE NUMBER *(If applicable)*
2011091045

SEE INSTRUCTIONS ON REVERSE. TYPE OR PRINT CLEARLY.

LEAD AGENCY	LEAD AGENCY EMAIL	DATE
CITY OF SAN DIEGO	---	12/06/2017

COUNTY/STATE AGENCY OF FILING	DOCUMENT NUMBER
San Diego County	*20170192*

PROJECT TITLE

WATER AND SEWER GROUP JOB 965

PROJECT APPLICANT NAME	PROJECT APPLICANT EMAIL	PHONE NUMBER
CITY OF SAN DIEGO- PUBLIC WORKS DEPT. PETER FOGEC	--	619-533-5118

PROJECT APPLICANT ADDRESS	CITY	STATE	ZIP CODE
525 B STREET SUITE 750	SAN DIEGO	CA	92101

PROJECT APPLICANT *(Check appropriate box)*

☒ Local Public Agency ☐ School District ☐ Other Special District ☐ State Agency ☐ Private Entity

CHECK APPLICABLE FEES:

170192

☐ Environmental Impact Report (EIR)	$3,078.25	$	
☑ Mitigated/Negative Declaration (MND)(ND)	$2,216.25	$	$0.00
☐ Certified Regulatory Program document (CRP)	$1,046.50	$	

☐ Exempt from fee

- ☐ Notice of Exemption (attach)
- ☐ CDFW No Effect Determination (attach)

☐ Fee previously paid (attach previously issued cash receipt copy)

☐ Water Right Application or Petition Fee (State Water Resources Control Board only)	$850.00	$	
☑ County documentary handling fee		$	$50.00
☐ Other		$	

PAYMENT METHOD:

☐ Cash ☐ Credit ☑ Check ☐ Other 0001610500 **TOTAL RECEIVED** $ $50.00

SIGNATURE	AGENCY OF FILING PRINTED NAME AND TITLE
X R Morris	San Diego County RENAE MORRIS ,Deputy

RCT #2011-1000 REM 11/21/2011

ORIGINAL - PROJECT APPLICANT | COPY - CDFW/ASB | COPY - LEAD AGENCY | COPY - COUNTY CLERK | DFW 753.5a (Rev. 20151215)

San Diego County

Transaction #: 2853213
Receipt #: 2017415652

Ernest J. Dronenburg, Jr.
Assessor/Recorder/County Clerk
1600 Pacific Highway Suite 260
P. O. Box 121750, San Diego, CA 92112-1750
Tel. (619) 237-0502 Fax (619) 557-4155
www.sdarcc.com

Cashier Date: 12/06/2017
Cashier Location: SD

Print Date: 12/06/2017 12:16 pm

Payment Summary

Total Fees:	$50.00
Total Payments:	$50.00
Balance:	$0.00

Payment

CHECK PAYMENT	$50.00
Total Payments	$50.00

Miscellaneous Item

FISH & WILDLIFE FEES

Fees:	Fish & Wildlife County Administrative Fee	$50.00
Total Fees Due:		$50.00

Grand Total - All Documents: $50.00

State of California—The Resources Agency
DEPARTMENT OF FISH AND GAME

2011 ENVIRONMENTAL FILING FEE CASH RECEIPT

RECEIPT# SD2011 1000

STATE CLEARING HOUSE # *(If applicable)* 2011091045

SEE INSTRUCTIONS ON REVERSE. TYPE OR PRINT CLEARLY

LEAD AGENCY: CITY OF SAN DIEGO

DATE: 11-21-2011

COUNTY/STATE AGENCY OF FILING: SAN DIEGO

DOCUMENT NUMBER: *20110217*

PROJECT TITLE: CITYWIDE PIPELINE PROJECTS - 2011

PROJECT APPLICANT NAME: CITY OF SAN DIEGO, PUBLIC WORKS DEPARTMENT

PHONE NUMBER: 619-533-7531

PROJECT APPLICANT ADDRESS: 600 B STREET, MS 908A

CITY: SAN DIEGO

STATE: CA

ZIP CODE: 92101

PROJECT APPLICANT *(Check appropriate box):*

☑ Local Public Agency ☐ School District ☐ Other Special District ☐ State Agency ☐ Private Entity

CHECK APPLICABLE FEES:

☐ Environmental Impact Report	$2,839.25	$
☑ Negative Declaration	$2,044.00	$ $2,044.00
☐ Application Fee Water Diversion *(State Water Resources Control Board Only)*	$850.00	$
☐ Projects Subject to Certified Regulatory Programs	$965.50	$
☑ County Administrative Fee	$50.00	$ $50.00
☐ Project that is exempt from fees		
☐ Notice of Exemption		
☐ DFG No Effect Determination (Form Attached)		
☐ Other _____		$

PAYMENT METHOD:

☐ Cash ☐ Credit ☑ Check ☐ Other 1152797

TOTAL RECEIVED $ $2,094.00

SIGNATURE: X L. Kesian

TITLE: Deputy

ORIGINAL - PROJECT APPLICANT COPY - DFG/ASB COPY - LEAD AGENCY COPY - COUNTY CLERK FG 753.5a (Rev. 7/08)

NOTICE OF DETERMINATION

110217

TO: X Recorder/County Clerk
P.O. Box 1750, MS A33
1600 Pacific Hwy, Room 260
San Diego, CA 92101-2422

X Office of Planning and Research
1400 Tenth Street, Room 121
Sacramento, CA 95814

FROM: City of San Diego
Development Services Department
1222 First Avenue, MS 501
San Diego, CA 92101

FILED
Ernest J Dronenburg, Jr., Recorder/County Clerk
NOV 21 2011
BY L. Kesian DEPUTY

Project Number: 255100

State Clearinghouse Number: 2011091045

Permit Number: N/A
Project Title: **CITYWIDE PIPELINE PROJECTS - 2011**

Project Location: Pipeline projects would be located in any community planning area within the City of San Diego.

Project Description: COUNCIL APPROVAL to allow for the replacement, rehabilitation, relocation, point repair, new trenching, trenchless construction, and abandonment of water and/or sewer pipeline alignments and associated improvements such as curb ramps, sewer lateral connections, water service connections, manholes, new pavement/slurry, the removal and/or replacement of street trees and the removal and/or replacement of street lights. This environmental document covers the analysis for four (4) near-term pipeline projects (Harbor Drive Pipeline, Water Group 949, Water Group 914, and Sewer/Water Group 732), as well as any subsequent future pipeline projects. The construction footprint for a typical pipeline project, including staging areas and other areas (such as access) would be located within the City of San Diego Public Right-of-Way (PROW) and/or within public easements and may include planned pipeline construction within private easements from the PROW to the service connection. A signed agreement between the City and the property owner would be required for work conducted on private property. Project types that would be included in the analysis contained herein would consist of sewer and water group jobs, trunk sewers, large diameter water pipeline projects, new and/or replacement manholes, new/or replacement fire hydrants, and other necessary appurtenances. All associated equipment would be staged within the existing PROW adjacent to the work areas. The near-term and future projects covered in the document would not impact *Sensitive Biological Resources* or *Environmentally Sensitive Lands (ESL)* as defined in the Land Development Code and would not encroach into the City's Multi-Habitat Planning Area (MHPA).

Project Applicant: City of San Diego, Public Works Department/Engineering and Capital Projects, 600 B. Street, MS 908A, San Diego, CA, 92101. Contact: Allison Sherwood, Senior Planner, 619-533-7531 and the Public Utilities Department –Water and Wastewater Division, 9192 Topaz Way, MS 901A, San Diego, CA 92123. Contact: Dirk Smith, Project Assistant, 858- 614-5722.

This is to advise that the City of San Diego City Council on NOV 15 2011 approved the above described project and made the following determinations:

1. The project in its approved form will not have a significant effect on the environment.
2. A Mitigated Negative Declaration was prepared for this project pursuant to the provisions of CEQA.

   Record of project approval may be examined at the address above.
3. Mitigation measures were made a condition of the approval of the project. 307122

It is hereby certified that the final environmental report, including comments and responses, is available to the general public at the office of the Entitlements Division, Fifth Floor, Development Services Department, 1222 First Avenue, San Diego, CA 92101.

Analyst: Myra Herrmann, Senior Planner

Telephone: (619) 446-5372

Filed by: Signature

Title

Reference: California Public Resources Code, Sections 21108 and 21152.

OFFICE OF THE CITY CLERK
2ND FLOOR CITY ADMINISTRATION BUILDING
202 "C" STREET, MS 2A
SAN DIEGO, CA 92101
TELEPHONE: 619-533-4021

COUNTY CLERK
1600 PACIFIC HIGHWAY
SAN DIEGO, CA 92101

DATE: November 18, 2011

CHECK ONE:

____CERTIFICATE OF FEE EXEMPTION: SEE ATTACHED

__X__DESCRIPTION/AMOUNT OF CHECK: $2,094.00/0001152797

PROJECT NUMBER: 255100/Citywide Pipeline Projects - 2011

PROJECT DESCRIPTION: For replacement, rehabilitation, relocation, point repair, new trenching, trenchless construction and abandonment of water and/or sewer pipeline alignments.

CONTACT NAME AND NUMBER: City of San Diego, Public Works Department/Engineering and Capital Projects 600 B Street, MS 908A, San Diego, Ca 92101-Allison Sherwood, Senior Planner (619) 533-7531

PROJECT APPLICANT: City of San Diego, Public Works Department/Engineering and Capital Projects

RESOLUTION NUMBER: R-307122

ITEM AND COUNCIL DATE: Item 101b of 11/15/11 –Pipeline Replacement

FILE LOCATION: Meet

ELIZABETH S. MALAND, City Clerk

By: Peggy Rogers,
Deputy City Clerk

Received by:_____

Date: _____

FILED
Ernest J Dronenburg, Jr. Recorder County Clerk

NOV 21 2011
L. Kesian
BY_____ DEPUTY

Ernest J. Dronenburg, Jr.

COUNTY OF SAN DIEGO
ASSESSOR/RECORDER/COUNTY CLERK

ASSESSOR'S OFFICE
1600 Pacific Highway, Suite 103
San Diego, CA 92101-2480
Tel. (619) 236-3771 * Fax (619) 557-4056

www.sdarcc.com

RECORDER/COUNTY CLERK'S OFFICE
1600 Pacific Highway, Suite 260
P.O. Box 121750 * San Diego, CA 92112-1750
Tel. (619)237-0502 * Fax (619)557-4155

Transaction #: 260895720111121
Deputy: LKESIAN
Location: COUNTY ADMINISTRATION BUILDING
21-Nov-2011 13:46

FEES:

2,044.00	Qty of 1 Fish & Game Neg Dec (1800) for Ref# NOD: 217
50.00	Qty of 1 Fish and Game Filing Fee
2,094.00	TOTAL DUE

PAYMENTS:

2,094.00	Check
2,094.00	TENDERED

SERVICES AVAILABLE AT OFFICE LOCATIONS

* Tax Bill Address Changes
* Records and Certified Copies:
  Birth/ Marriage/ Death/ Real Estate
* Fictitious Business Names (DBAs)
* Marriage Licenses and Ceremonies
* Assessor Parcel Maps
* Property Ownership
* Property Records
* Property Values
* Document Recordings

SERVICES AVAILABLE ON-LINE AT www.sdarcc.com

* Forms and Applications
* Frequently Asked Questions (FAQs)
* Grantor/ Grantee Index
* Fictitious Business Names Index (DBAs)
* Property Sales
* On-Line Purchases
  Assessor Parcel Maps
  Property Characteristics
  Recorded Documents

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.)

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.

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.

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.

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

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

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

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.

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. Theses 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.

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).

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)

City of San Diego PUBLIC UTILITIES Water & Wastewater

(For Office Use Only)

NS REQ	FAC#
DATE	BY

METER SHOP (619) 527-7449

Application Date	Requested Install Date:

Meter Information

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:	☐	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: (PERSON IN ACCOUNTS PAYABLE)			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: ( )	

☐ City Meter	☐ 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 WITH CASH FLOW FORECAST

City of San Diego, CM&FE Div., 9573 Chesapeake Drive, SD CA 92123
Project Name:
Work Order No or Job Order No.
City Purchase Order No.
Resident Engineer (RE):
RE Phone#: Fax#:

Contractor's Name:
Contractor's Address:
Contractor's Phone #:
Contractor's fax #:
Contact Name:

Invoice No.
Invoice Date:
Billing Period: (To)

Trigger Asset	Item #	Item Description	Contract Authorization				Previous Totals To Date		This Estimate		Totals to Date		Amount Remaining
			Unit	Price	Qty	Extension	%/QTY	Amount	% / QTY	Amount	% / QTY	Amount	
	1				1.00	$ -		$0.00		$0.00	0.00	$0.00	$ -
	2				1.00	$ -		$0.00		$0.00	0.00%	$0.00	$ -
	3				1.00	$ -		$0.00		$0.00	0.00%	$0.00	$ -
	4				1.00	$ -		$0.00		$0.00	0.00%	$0.00	$ -
	5				1.00	$ -		$0.00		$0.00	0.00%	$0.00	$ -
	6				1.00	$ -		$0.00		$0.00	0.00%	$0.00	$ -
	7				1.00	$ -		$0.00		$0.00	0.00%	$0.00	$ -
	8				1.00	$ -		$0.00		$0.00	0.00%	$0.00	$ -
	5				1.00	$ -		$0.00		$0.00	0.00%	$0.00	$ -
	6					$ -		$0.00		$0.00	0.00%	$0.00	$ -
	7					$ -		$0.00		$0.00	0.00%	$0.00	$ -
	8					$ -		$0.00		$0.00	0.00%	$0.00	$ -
	9					$ -		$0.00		$0.00	0.00%	$0.00	$ -
	10					$ -		$0.00		$0.00	0.00%	$0.00	$ -
	11					$ -		$0.00		$0.00	0.00%	$0.00	$ -
	12					$ -		$0.00		$0.00	0.00%	$0.00	$ -
	13					$ -		$0.00		$0.00	0.00%	$0.00	$ -
	14					$ -		$0.00		$0.00	0.00%	$0.00	$ -
	15					$ -		$0.00		$0.00	0.00%	$0.00	$ -
	16					$ -		$0.00		$0.00	0.00%	$0.00	$ -
	17					$ -		$0.00		$0.00	0.00%	$0.00	$ -
						$ -		$0.00		$0.00	0.00%	$0.00	$ -
		CHANGE ORDER No.				$ -		$0.00		$0.00	0.00%	$0.00	$ -
						$ -		$0.00		$0.00	0.00%	$0.00	$ -
		Total Auhtorized Amount (Original)				$ -		$0.00		$0.00		$0.00	$ -
		Total Authorized Amount (including approved Change Order)				**$ -**		$0.00		$0.00	**Total Billed**	$0.00	Total Amount Remaining
													$ -

SUMMARY

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

I certify that the materials have been received by me, or services have been rendered, in the quality and quantity specified per the approved contracted amounts, and is approved for payment

_____
Resident Engineer **Date**

_____
Construction Engineer **Date**

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:	$0.00

Contractor Signature and Date: _____

1/10/2024 Rev

WBS #:	B18108
Date Submitted:	10/10/2018
NTP Date:	3/23/2018
Final Statement of WD Date:	5/23/2020
Contract #:	K-XX-XXXX-XXX-X
Contract Amount:	$5,617,000

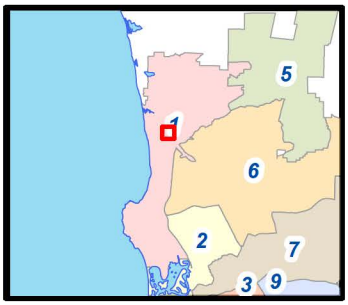
Construction Cash Flow Forecast

"Sewer and Water Group Job 965 (W)"

Year	January	February	March	April	May	June	July	August	September	October	November	December
2018				15,000	25,000	52,000	52,000	100,000	10,000	100,000	100,000	100,000
2019	10,000	10,000	85,000	58,000	100,000	100,000	100,000	100,000	100,000	100,000	1,000,000	1,000,000
2020	100,000	100,000	100,000	1,000,000	1,000,000							
2021												
2022												
2023												
2024												
2025												

APPENDIX E

LOCATION MAPS



Engineering & Capital Projects

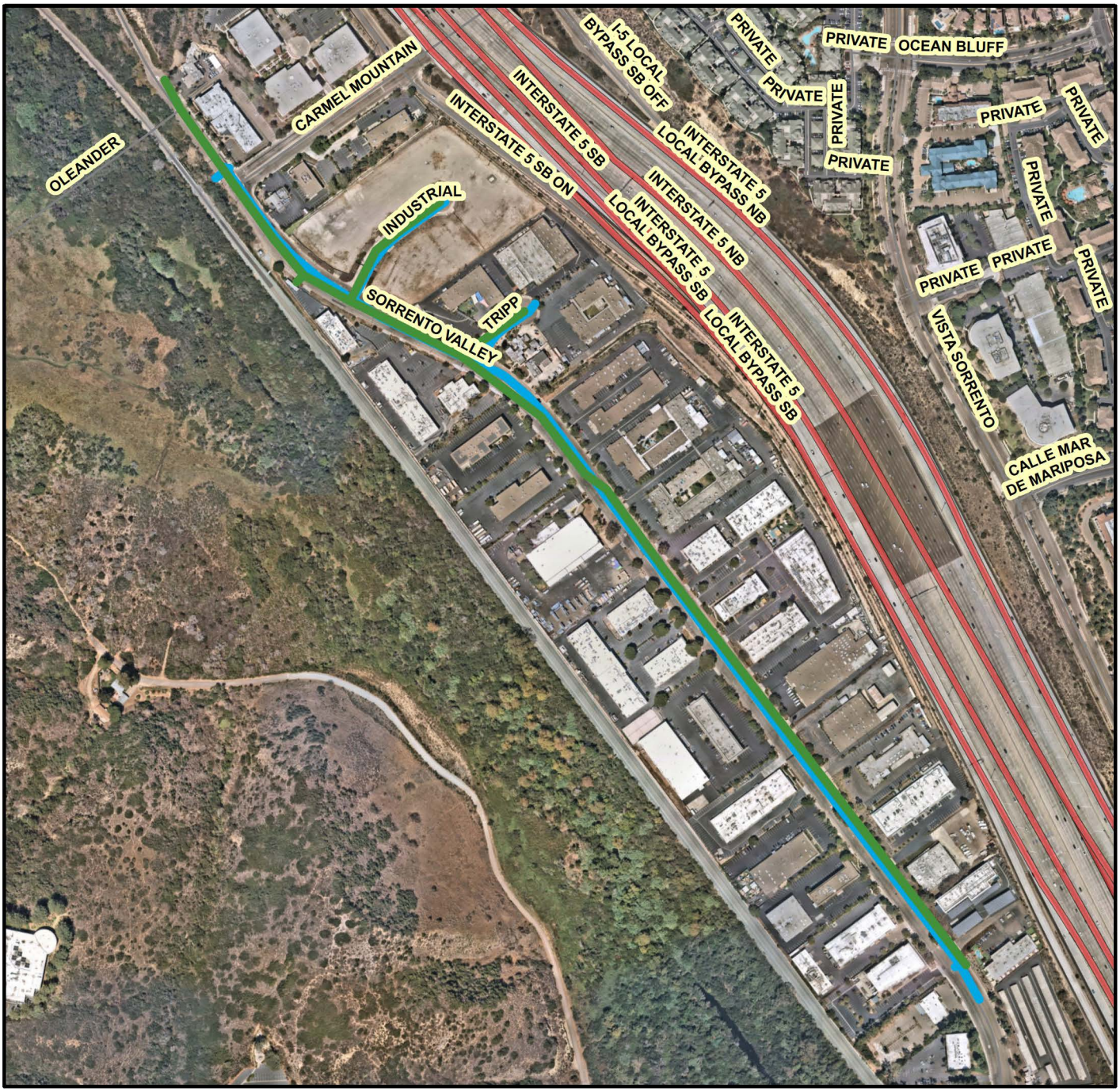
Water & Sewer Group 965

SENIOR ENGINEER
ALEX SLEIMAN
619-533-7588

PROJECT MANAGER
SANTIAGO CRESPO
619-533-3627

PROJECT ENGINEER
LAMYA BARAYA
619-533-4434

FOR QUESTIONS ABOUT THIS PROJECT
Call: (619) 533-4207
Email: engineering@sandiego.gov



Legend

- Sewer
- Water

N
W
E
S

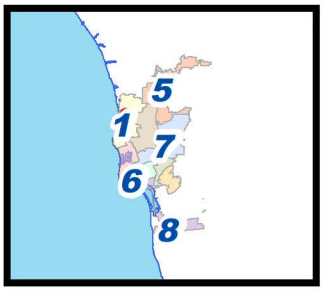
COMMUNITY NAME: Torrey Pines
Date: 1/11/2023

COUNCIL DISTRICT: 1

Map 1 of 2

SanGIS

WBS NO: B12048 Sewer
B12057 Water



Engineering & Capital Projects

Water & Sewer Group 965

SENIOR ENGINEER
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PROJECT MANAGER
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619-533-3627

PROJECT ENGINEER
LAMYA BARAYA
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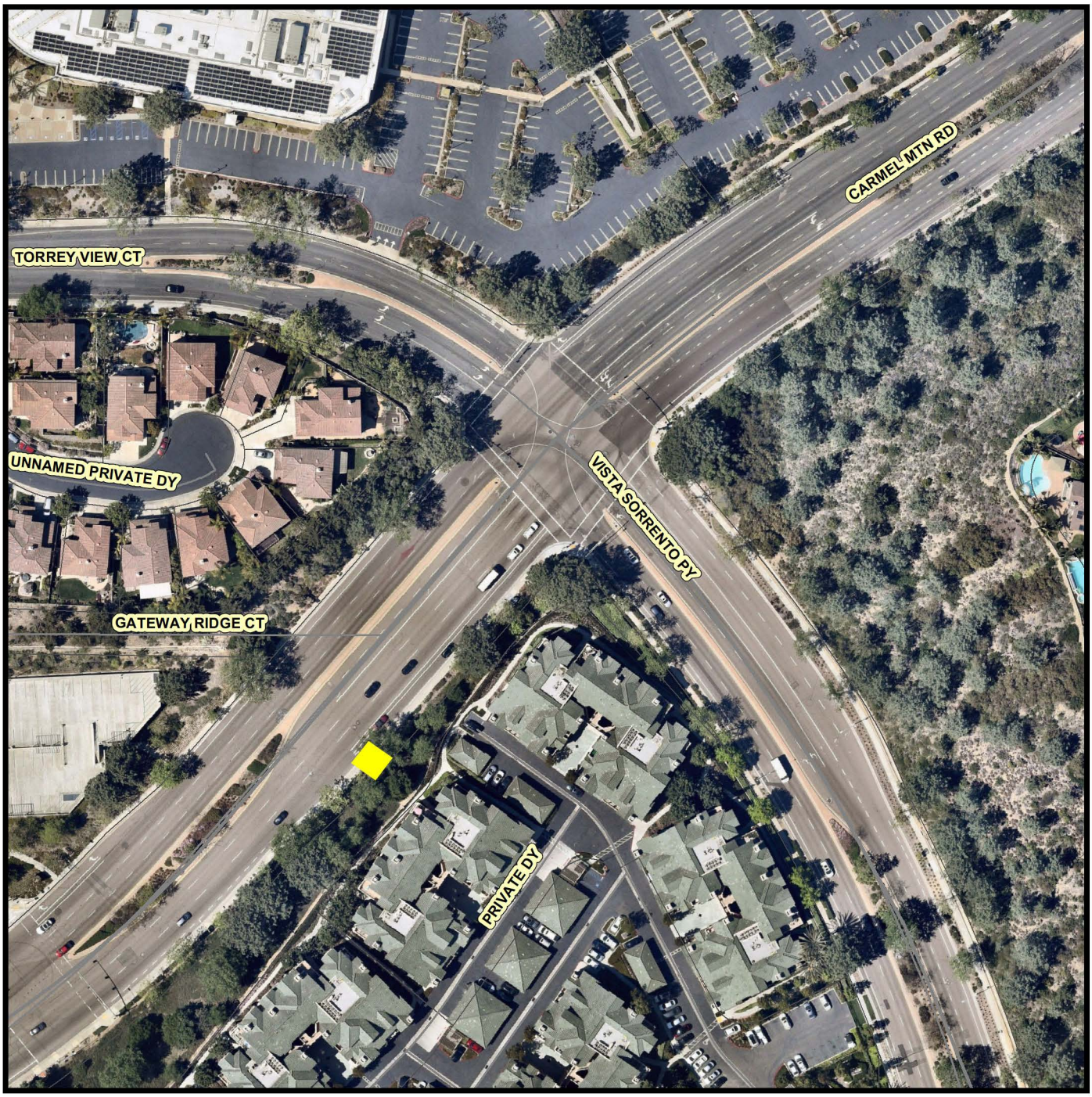

Legend

Pressure Reducing Station

N
W
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S

COMMUNITY NAME: Torrey Pines
Date: 1/11/2023

COUNCIL DISTRICT: 1

Map 2 of 2

WBS NO: B12048 Sewer
B12057 Water

SanGIS

APPENDIX F

MONTHLY DRINKING WATER DISCHARGE MONITORING FORM

DRINKING WATER DISCHARGE MONITORING FORM

(Use for All Discharges to the Storm Drain)

All discharge activities related to this project comply with the State Water Resources Control Board ORDER WQ 2014-0194-DWQ, STATEWIDE GENERAL NPDES PERMIT FOR DRINKING WATER SYSTEMS DISCHARGES as referenced by (http://www.waterboards.ca.gov/water_issues/programs/npdes/docs/drinkingwater/final_statewide_wqo2014_0194_dwq.pdf), and as follows:

Project Name:		WBS No.:		Watershed No.	
Qualified Person Conducting Tests:		signature			

BMPs MUST BE IN PLACE PRIOR TO ANY SCHEDULED DISCHARGE

By signing, I certify that all of the statements and conditions for drinking water discharge events are correct.

Event #1

Discharge Location[1]	Catergory[2] (Select one)	Notification[3] (Select all that apply)	BMPs in Place[4] (Select all that apply)	Volume[5] (gal)	Sampling[6] (take samples at 10 mins, 50-60 mins & last 10 mins)				Exceedence[7]			Notes
					Measure	Unit	Time	Result	Limit	No	Yes	Report exceedence to RE & complete page 2 of 2
Inlet Location	☐ Superchlorinated (Chlorine added for disinfection)	☐ TSW (All Categories)	☐ Sweep flow path (gutter, street, etc.)	**Total**	*Chlorine*	mg/L			0.1 mg/L= Exceedance			
	☐ Large Volume (≥ 325,850 gal)	☐ PUD (All Categories)	☐ Dechlorination (diffusers, chemicals, etc.)	**Reused** (if any)								
Start Date: Time:	☐ Well Dev/Rehab (Not Typical)	☐ Water Board (Large Volume Only)	☐ Inlet Protection		*Turbidity*	NTU			20 NTU= Exceedance 225 NTU= Exceedance for Ocean			
			☐ Erosion Controls									
End Date: Time:	☐ Small Volume/Other (No Sampling Required)	☐ County (≥100,000 gal & within ¼ mile of ocean/bay; or if enters the County's MS4)	☐ Sediment Controls		*pH*	Unit			Range 6.5 to 8.5			

Event #2

Discharge Location[1]	Catergory[2] (Select one)	Notification[3] (Select all that apply)	BMPs in Place[4] (Select all that apply)	Volume[5] (gal)	Sampling[6] (take samples at 10 mins, 50-60 mins & last 10 mins)				Exceedence[7]			Notes
					Measure	Unit	Time	Result	Limit	No	Yes	Report exceedence to RE & complete page 2 of 2
Inlet Location	☐ Superchlorinated (Chlorine added for disinfection)	☐ TSW (All Categories)	☐ Sweep flow path (gutter, street, etc.)	**Total**	*Chlorine*	mg/L			0.1 mg/L= Exceedance			
	☐ Large Volume (≥ 325,850 gal)	☐ PUD (All Categories)	☐ Dechlorination (diffusers, chemicals, etc.)	**Reused** (if any)								
Start Date: Time:	☐ Well Dev/Rehab (Not Typical)	☐ Water Board (Large Volume Only)	☐ Inlet Protection		*Turbidity*	NTU			20 NTU= Exceedance 225 NTU= Exceedance for Ocean			
			☐ Erosion Controls									
End Date: Time:	☐ Small Volume/Other (No Sampling Required)	☐ County (≥100,000 gal & within ¼ mile of ocean/bay; or if enters the County's MS4)	☐ Sediment Controls		*pH*	Unit			Range 6.5 to 8.5			

Instructional Notes found on the Page 2 of 2

Submit completed Form to RE

Receiving Water Monitoring

(Complete only if limits exceed on Page 1 of 2)

Event #1		
1) Go to the location where the discharge enters the receiving water.		
☐ Accessible ☐ Unable to Determine ☐ No Safe Access		
2) If accessible, take photos and complete the visual monitoring below. If unable to determine, stop here. If no safe access, stop here.		
3) Visual Monitoring: Is the discharge into the receiving water…		
…causing erosion	☐ Yes	☐ No
…carrying floating or suspended matter	☐ Yes	☐ No
…causing discoloration	☐ Yes	☐ No
…causing and impact to the aquatic life present	☐ Yes	☐ No
…observed with visible film	☐ Yes	☐ No
…observed with an sheen or coating	☐ Yes	☐ No
…causing potential nuisance conditions	☐ Yes	☐ No
3) If all answers are NO, stop here.		
4) If any answers are YES, Notify the RE immediately for further action		

Event #2		
1) Go to the location where the discharge enters the receiving water.		
☐ Accessible ☐ Unable to Determine ☐ No Safe Access		
2) If accessible, take photos and complete the visual monitoring below. If unable to determine, stop here. If no safe access, stop here.		
3) Visual Monitoring: Is the discharge into the receiving water…		
…causing erosion	☐ Yes	☐ No
…carrying floating or suspended matter	☐ Yes	☐ No
…causing discoloration	☐ Yes	☐ No
…causing and impact to the aquatic life present	☐ Yes	☐ No
…observed with visible film	☐ Yes	☐ No
…observed with an sheen or coating	☐ Yes	☐ No
…causing potential nuisance conditions	☐ Yes	☐ No
3) If all answers are NO, stop here.		
4) If any answers are YES, Notify the RE immediately for further action		

Instructional Notes

1) Log the location of the inlet or discharge point. For example: Albatross St & 5th Av. Log the start date and time and the end date and time of the discharge.
2) Log the discharge category. "Superchlorinated" are discharges where additional chlorine is added in order to adequately disinfect and sanitize drinking water system facilities. This does NOT include potable water containing residual chlorine from the water treatment process. "Large Volume" discharges are greater than 325,850 gallons of total volume for one event. "Well Dev/Rehab" are discharges of potable ground water from a well. This is not typical. If none of these categories apply, then select "Small Volume/Other."
3) Notifications of the location, date, time, category, and estimated volume of discharge must be made to the contacts and per the requirements below:

Contact	When to Notify	Email
TSW	3 days prior to all discharges	SWPPP@SanDiego.gov
PUD	3 days prior to all discharges	CompReports@SanDiego.gov Rdavenport@SanDiego.gov
San Diego Water Board	3 days prior to Large Volume discharges	SanDiego@WaterBoards.ca.gov Ben.Neill@WaterBoards.ca.gov
County of San Diego	3 days prior if 100,000 gal and within 1/4 mile of ocean/bay	DEH: Joseph.Palmer@SDCounty.ca.gov Dominique.Edwards@SDCounty.ca.gov
	3 days prior if enter county MS4 or unincorporated County	WPP:Nicholas.DeValle@SDCounty.ca.gov LUEG.Watersheds@sdcounty.ca.gov

4) At a minimum, sweep gutters prior to starting discharge and use dechlorination BMPs. The contractor and RE must monitor and determine if BMPs need to be removed or modified. For example if inlet protection is causing flooding at a storm drain inlet, contractor may elect to remove BMPs. Document any modification to BMPs in the notes
5) Total volume must be logged for all discharges. If discharge water is reused for other purposes such as watering a golf course, log that volume under "Reused"
6) Sampling is required for categories per the following table:

Category	Measure	Sample Frequency
Superchlorinated	Chlorine, Turbidity, pH	first 10 min, 50-60 min, last 10 min
Large Volume	Chlorine Turbidity	first 10 min, 50-60 min, last 10 min
Well Dev/Rehab	Chlorine Turbidity	first 10 min, 50-60 min, last 10 min
Small Volume/Other	None required	N/A

7) Effluent limitations must be monitored not to exceed per the following table:

Measure	Method	Limit
Chlorine	Field Measure	0.10 mg/L-Cl
Turbidity	Visual Estimate	20 NTU for inland waters 225 NTU for ocean 100 NTU for wells
pH	Field Meausre	6.5 - 8.5

APPENDIX G

WAIVER FROM THE STATE WATER RESOURCES CONTROL BOARD

State Water Resources Control Board

Division of Drinking Water

Sent via email: SLorance@sandiego.gov

October 13, 2019

Shauna Lorance
Public Utilities Director
9192 Topaz Way
San Diego, CA 92123

CITY OF SAN DIEGO, SYSTEM NO. 3710020
POTABLE WATER PIPE SEPARATION FOR "WATER AND SEWER GROUP 965"

Dear Ms. Lorance:

On October 13, 2020, Bill DiBiase, Sanitary Engineer with the State Water Resources Control Board – Division of Drinking Water (Division), reviewed sheets 10 and 15 of the design plans for the "Water and Sewer Group 965" project for the City of San Diego. The City's waiver request checklist and the two plan sheets are attached for reference.

The project is in the Carmel Valley neighborhood of the City of San Diego. The project will replace approximately 5,020 feet of existing 16-inch and 10-inch asbestos cement (AC) water mains with 16-inch and 12-inch polyvinyl chloride (PVC) pipe along Sorrento Valley Road. In some locations, the replacement piping does not conform to Section 64572, Title 22 of the California Code of Regulations.

1. In the first location (conflict #1 on the attached conflict table), the proposed 16-inch water main will be installed parallel to an existing 8-inch PVC sanitary sewer with less than 10 feet of horizontal clearance. The alignment is necessary due to the need to connect to an existing waterline and the conflict is approximately 16 feet in length. The vertical elevation of the two utilities is similar and the horizontal clearance provided will be 9.8 feet. The water main will be constructed of C905 DR-18 PVC with restrained joints.
2. In the second location (conflict #2 on the attached conflict table), the proposed 16-inch water main will be installed parallel to an existing 8-inch PVC sanitary sewer with less than 10 feet of horizontal clearance. The alignment is necessary due to existing utilities in the right-of-way that cause the water line to cross at least 9.2 feet horizontally from an existing manhole. The water main is higher in elevation than the adjacent sewer and the conflict extends for approximately 4 feet in length. The water main will be constructed of C905 DR-18 PVC with restrained joints.
3. In the third location (conflict #3 on the attached conflict table), the proposed 16-inch water main will be installed parallel to an existing 10-inch PVC sanitary sewer with less than 10 feet of horizontal clearance. The alignment is necessary due to the

need to connect to an existing waterline and the conflict is approximately 20 feet in length. The water main is approximately 5 feet higher in elevation than the adjacent sewer, and the horizontal clearance provided will be 5.3 feet. The water main will be constructed of C905 DR-18 PVC with restrained joints.

The upgrades appear to minimize the risk of contamination to the drinking water supply and meet the intent of alternative criteria requirements for construction of water mains. The Division hereby approves the submitted plans.

We appreciate the opportunity to comment on the plans and look forward to working with you on future projects. If you have any questions regarding this letter, please contact Bill DiBiase or me at (619) 525-4159.

Sincerely,

Sean Sterchi
Digitally signed by Sean Sterchi
Date: 2020.10.13 16:57:36 -07'00'
Water Boards

Sean Sterchi, P.E.
District Engineer

Enclosure:

(1) Pipeline separation checklist
(2) Sheets 10 and 15 of the design plans for the “Water and Sewer Group 965” project for the City of San Diego

cc: Lars Seifert, Chief, Land and Water Quality Division, County of San Diego, Department of Environmental Health (via email)

Santiago Crespo, P.E., Associate Engineer, City of San Diego (via email)

Bardia Hashemi, P.E., Water/Wastewater Engineer, Parsons (via email)

The City of SAN DIEGO
Engineering & Capital Projects Department
Transportation & Utilities Engineering Division

September 21, 2020

Mr. Bill DiBiase
Sanitary Engineer
State Water Resources Control Board – Division of Drinking Water
1350 Front Street, Suite 2050
San Diego, CA 92101

Subject: Water and Sewer Group 965
Contract H176827
Request for Parallel Construction Variance to California Code Regulation (CCR)
(Title 22, Chapter 16, Article 4, Section 64572)

Mr. DiBiase:

The purpose of this letter is to request a variance for parallel construction to the California Code Regulation (CCR) (Title 22, Chapter 16, Article 4, Section 64572) for new water distribution pipelines being installed as part of the Water & Sewer Group 965 project for the City of San Diego in the Sorrento Valley area.

The Water & Sewer Group 965 project includes the design and construction of new 16-inch and 12-inch water distribution pipelines in Sorrento Valley Road, Industrial Court, and Tripp Court within the City of San Diego.

Description of Work and Project Constraints

The project replaces approximately 5,020 feet (0.95 miles) of existing 16-inch and 10-inch asbestos cement (AC) water mains with 16-inch and 12-inch polyvinyl chloride (PVC) pipe. Also included in the project is the construction of replacement fire hydrants, service laterals, and 8-inch and 12-inch sewer pipe and laterals. The work is proposed to be "replace-in-place" using open trench construction within the City right-of-way. The variance request for Special Permission is necessary because this work is located in narrow residential streets where the existing street is congested with utilities.

Pipeline Material and Construction

The water pipeline material will be Polyvinyl Chloride (PVC), which has excellent corrosion resistance, and will conform to AWWA C-900 for 12-inch pipe and AWWA C-905 for 16-inch pipe in accordance with City of San Diego standards. All 16-inch pipe used for water mains within the zone of variance will have a Diameter Ratio (DR) of 18 and will have gasketed bell and spigot joints. All 12-inch pipe used for water mains within the zone of variance will have a Diameter Ratio (DR) of 14 and will have gasketed bell and spigot joints. Where CCR variance is requested, joints will be fully restrained.

The pipeline segment in this variance request will be installed via the open trench method and in accordance with AWWA C-605 - Underground Instillation and Hydrostatic Testing Procedures for PVC pressure pipe and fittings. A minimum cover of three feet will be maintained throughout the alignments. Tracer wire and warning tape will be installed above the pipelines to provide protection against damage from future excavations.

Pipeline Separation

Where feasible, the pipeline installations will conform to the requirements set forth in CCR (Title 22, Chapter 16, Section 64572):

- Will not be installed in the same trench as an existing sewer pipeline;
- Will be installed at least 10 feet horizontally from an existing sewer pipeline (as measured from the nearest outside edge of each pipe barrel); and
- Will be installed at least 1 foot vertically higher than an existing sewer pipeline at all perpendicular crossings.

Table 1 summarizes the location of parallel construction that does not meet the above requirements. Please refer to construction drawing C-9 and C-14 in **Appendix A** to review the location of the parallel construction to the existing sewer pipeline. In no instance will the new water pipelines be installed in the same trench as a sewer main or less than 1 foot horizontal identified as the prohibited "Zone P".

Table 1 – Zone B Parallel Construction

Location	Lt/Rt of CL	Station Range	Distance Range (ft)	Drawing Number	Water Separation	Sewer Separation
Sorrento Valley Road	Rt	1+00 to 1+17	9.8	C-9	16" Water	8" Sewer
Sorrento Valley Road	Rt	6+67	9.2	C-9	16" Water	8" Sewer
Sorrento Valley Road	Rt	42+86 to 43+06	5.51-5.68	C-14	16" Water	10" Sewer

The variance request is necessary along Sorrento Valley Road between Stations 1+00 to 1+17 because of the location of the existing water main connection at Carmel Mountain Road and Sorrento Valley Road and the connection point on the southeastern end of the project on Sorrento Valley Road. The majority of the alignment is meets the required separation, however the location of the tie-in does not meet this requirement due to the presence of existing utilities. Along the same alignment at Station 6+67, the water main encroaches on the separation requirement at a manhole that cross the pipeline.

The variance request is necessary along Sorrento Valley Road between Stations 42+86 to 43+06 because of the location of the tie-in to the existing water main is less than 10-feet from an existing 10-inch vitrified clay pipe on Sorrento Valley Road. The existing sewer main

is parallel to the existing water main and begins at a manhole at Sta 42+86 and continues south along Sorrento Valley Road.

Please provide confirmation that the proposed pipeline construction meets the requirements of *Title 22 California Code of Regulations, Chapter 16, Article 4, Paragraph 64572*, and complies with *DHS Guidance Memo 2003-02* and that a variance relative to the California Waterworks Standards is confirmed.

If you have any questions or comments related to this request, please let me know by e-mail at SCrespo@sandiego.gov or by phone at (619) 533-3627.

Sincerely,

Santiago Crespo

Santiago Crespo, P.E.
Associate Civil Engineer

Enclosures: Group Job 965 Waterworks Standards Main Separation Alternative - Request Checklist
Attachment A - Water and Sewer Group 965 Sheets C-11 and C-14 Drawings

STATE WATER RESOURCES CONTROL BOARD
Division of Drinking Water
Waterworks Standards Main Separation Alternative - Request Checklist

Water System Name:	City of San Diego	WS Number:	CA3710020
Name of Applicant:	Santiago Crespo		
Contact Phone:	619-533-3627	Email:	Screspo@sandiego.gov
Project Name:	Water & Sewer Group 965	Location:	San Diego, CA

Attach detailed plans with vertical profile and horizontal alignment, specifications, and other exhibits necessary to show the standard installation and the proposed installation for which the alternative is being requested.

The Waterworks Standards in the California Code of Regulations (CCR) Title 22, Chapter 16, Section 64572 provide separation criteria for new construction. When buried water mains are in close proximity to non-potable pipelines, the water mains are vulnerable to contamination that can pose a risk of waterborne disease outbreaks.

Per CCR Title 22, Chapter 16, Section 64551.100, a water system that proposes to use an alternative to a requirement in Chapter 16 shall: 1) demonstrate to the State Board that the proposed alternative would provide at least the same level of protection to public health; and 2) obtain written approval from the State Board prior to implementation of the alternative. Requests for alternatives to the Waterworks Standards must consist of information requested in the Pipeline Construction Information tab. The information must be submitted to the Division of Drinking Water District Office for review and approval prior to construction.

Please Note: The information may be submitted using this checklist or another format, but all relevant information must be provided to the Division of Drinking Water District Office for consideration.

	Location		Proposed Pipeline						Existing Pipeline - Paralleling or Crossing the Proposed Pipeline										Separation (OD-OD)						
No.	Plan Sheet	Station Range	Type	Size (in)	Pressure	Material	Material Designation	Joint Type	Type	Size (in)	Pressure	Material	Material Designation	Joint Type	Age/ Condition	Crossing or parallel?	Length of parallel section (ft)	Angle (if crossing)	Which utility is higher?	Vertical (ft)	Horizontal (ft)	Explanation of why the new pipeline cannot be installed IAW Waterworks Standards	Proposed Protective Measures	DDW Comments
1	C-9	1+00 to 1+17	Domestic Water	16	80-100 psi	PVC	C-905/DR-18	Restrained Joints	Sewer	8	Gravity	PVC	N/A	N/A	New	Parallel	17	n/a	N/A	N/A	9.8	Connecting to an existing waterline. Upstream portions of construction are greater than 10-feet horizontal offset, but remaining 17 feet for connection fall within 10 feet.	Upgraded material (DR-18) and restrained joints will be used for this area	
2	C-9	6+67	Domestic Water	16	80-100 psi	PVC	C-905/DR-18	Restrained Joints	Sewer	8	Gravity	PVC	N/A	N/A	New	Parallel	4	n/a	N/A	N/A	9.2	Due to the presence of existing utilities, the proposed pipe alignment has less than 10-foot separation with the proposed manhole at this location.	Upgraded material (DR-18) and restrained joints will be used for this area	
3	C-14	42+86 to 43+06	Domestic Water	16	80-100 psi	PVC	C-905/DR-18	Restrained Joints	Sewer	10	Gravity	VC	N/A	N/A	New	Parallel	20	N/A	Water	5	5.3	Connecting to an existing waterline. Downstream portions of construction are greater than 10 feet horizontal offset, but remaining 108 feet for connection fall within 10 feet due to presence of other existing utilities.	Upgraded material (DR-18) and restrained joints will be used for this area	

CERTIFYING SIGNATURE:

For consultants, contractors, and developers: attach written concurrence from the governing water system and pipeline owners stating that the selected project alternative is the preferred alternative.

Attached concurrence?: ☑ Yes ☐ No ☐ N/A

I certify that the forgoing information is true and correct to the best of my ability, and that I believe this alternative would provide at least the same level of protection to public health as the minimum separation distances prescribed in the California Waterworks Standards (CCR, Title 22, Section 64572).

Santiago Crespo — September 21, 2020

Signature — Date

Santiago Crespo, Associate Civil Engineer

Name and Title

WATER AND SEWER GROUP 965

CONTRACTOR'S RESPONSIBILITIES

1. PURSUANT TO SECTION 4216 OF THE GOVERNMENT CODE, AT LEAST 2 WORKING DAYS PRIOR TO EXCAVATION, YOU MUST CONTACT THE REGIONAL NOTIFICATION CENTER (E.G. UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA) AND OBTAIN AN INQUIRY IDENTIFICATION NUMBER.
2. NOTIFY SDG&E AT LEAST 10 WORKING DAYS PRIOR TO EXCAVATING WITHIN 10' OF SDG&E UNDERGROUND HIGH VOLTAGE TRANSMISSION POWER LINES. (I.E., 69 KV & HIGHER)
3. LOCATE AND RECONNECT ALL SEWER LATERALS. LOCATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE ONLY, LATERAL RECORDS ARE AVAILABLE TO THE CONTRACTOR AT THE WATER DEPARTMENT, 2797 CAMINITO CHOLLAS. LOCATE THE IMPROVEMENTS THAT WILL BE AFFECTED BY LATERAL REPLACEMENTS.
4. EXCAVATE AROUND WATER METER BOX (CITY PROPERTY SIDE) TO DETERMINE IN ADVANCE, THE SIZE OF EACH SERVICE BEFORE TAPPING MAIN.
5. CITY FORCES, WHEN SPECIFIED OR SHOWN ON THE PLANS, WILL MAKE PERMANENT CUTS & PLUGS AND CONNECTIONS.
6. KEEP EXISTING MAINS IN SERVICE IN LIEU OF HIGH-LINING, UNLESS OTHERWISE SPECIFIED SHOWN ON PLANS.
7. THE LOCATIONS OF EXISTING BUILDINGS AS SHOWN ON THE PLAN ARE APPROXIMATE.
8. STORM DRAIN INLETS SHALL REMAIN FUNCTIONAL AT ALL TIMES DURING CONSTRUCTION.
9. UNLESS OTHERWISE NOTED AS PREVIOUSLY POTHOLED (PH), ELEVATIONS SHOWN ON THE PROFILE FOR EXISTING UTILITIES ARE BASED ON A SEARCH OF THE AVAILABLE RECORD INFORMATION ONLY AND ARE SOLELY FOR THE CONTRACTOR'S CONVENIENCE. THE CITY DOES NOT GUARANTEE THAT IT HAS REVIEWED ALL AVAILABLE DATA. THE CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITIES EITHER SHOWN ON THE PLANS OR MARKED IN THE FIELD IN ACCORDANCE WITH THE SPECIFICATIONS SECTION 402-UTILITIES.
10. EXISTING UTILITY CROSSING AS SHOWN ON THE PLANS ARE APPROXIMATE AND ARE NOT REPRESENTATIVE OF ACTUAL LENGTH AND LOCATION OF CONFLICT AREAS. SEE PLAN VIEW.
11. ALL ADVANCE METERING INFRASTRUCTURE (AMI) DEVICES ATTACHED TO THE WATER METER OR LOCATED IN OR NEAR WATER METER BOXES, COFFINS, OR VAULTS SHALL BE PROTECTED AT ALL TIMES IN ACCORDANCE WITH THE CONTRACT DOCUMENT.
12. FOR COORDINATION OF THE SHUTDOWN OF TRANSMISSION MAINS (16 INCHES AND LARGER), CONTACT THE CITY'S SENIOR WATER DISTRIBUTION OPERATIONS SUPERVISOR JESUS RAMOS AT (619) 527-7438. FOR COORDINATION OF THE SHUTDOWN OF DISTRIBUTION MAINS (LESS THAN 16 INCHES), CONTACT THE CITY'S WATER OPERATIONS DISTRICT MANAGER FREDDY PORTER AT (619) 527-7539. FOR COORDINATION OF SHUTDOWN OF WATER FACILITIES, PLEASE CONTACT TATYANA FIKHMAN (619) 527-7465 AND JESUS RAMOS (619) 527-7438.

CONSTRUCTION STORM WATER PROTECTION NOTES

1. TOTAL SITE DISTURBANCE AREA (ACRES) 0.90
   HYDROLOGIC UNIT/ WATERSHED PENASQUITOS/LOS PENASQUITOS WMA
   HYDROLOGIC SUBAREA NAME & NO. MIRAMAR RESERVOIR 906.10
2. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE
   - ☒ WPCP
     THE PROJECT IS SUBJECT TO MUNICIPAL STORM WATER PERMIT NO. R9-2013-0001 AS AMENDED BY R9-2015-0001 AND R9-2015-0100
   - ☐ SWPPP
     THE PROJECT IS SUBJECT TO MUNICIPAL STORM WATER PERMIT NO. R9-2013-0001 AS AMENDED BY R9-2015-0001 AND R9-2015-0100 AND CONSTRUCTION GENERAL PERMIT ORDER 2009-0009-DWQ AS AMENDED BY ORDER 2010-0014-DWQ AND 2012-0006-DWQ
     TRADITIONAL: RISK LEVEL ☐1 ☐2 ☐3
     LUP: RISK TYPE ☐1 ☐2 ☐3
3. CONSTRUCTION SITE PRIORITY
   ☐ ASBS ☐ HIGH ☐ MEDIUM ☒ LOW

FIELD DATA

SOURCE:
Topo source is from field topo by Ing/Sisko & Lawrence dated 12/21/2015
REFERENCES:
City of San Diego PRELIMINARY SURVEY FIELD NOTES:
UG938, RUSSELL, 4/06/11, 270-1698, B-11034 (USED FOR THIS JOB)
SURVEY BY SISKO, ADDL INFO FOR GJ965, 1/25/2017, B-12057 (ADDED PT•s 2201 - 2290)
UG541, 4/16/01, 244-1683, W.O. 185161
UG716, 9/15/00, 246-1689, W.O. 175511/18571
SORRENTO VALLEY TS, MACY/LUTHER, 1/12/05, 266-1701, W.O. 173771
MAPS: 352, 483, 976, 4753, 4909, 4910, 5693, 6330, 7991
ROS: 6208, 9802, 12103, 12937, 13616, 14089
PM: 400, 894, 895, 3360, 8611, 13819, 15349, 17904, 18158, 18558
CR: 4285, 27028, 27049, 29930
CITY DWG: 8610-B, 10848-B, 11022-B, 16378-B, 22021-D, 23143-D

BASIS OF BEARINGS/COORDINATES:
The Basis of Bearings for this project was derived from a previous STATIC GPS Survey using GPS 585 and GPS 17 as shown on R.of S. 14492 I.E. N 19°51'53" E, NAD 83 feet, Zone 6 (epoch 91.35), utilizing RTK/GPS field procedures with the Base Station located at KMSA and constraining to GPS 585, GPS 17 and checking GPS 202.

BENCH:
EBP Carmel Mountain Rd. and Sorrento Valley Rd.
Elev. 15.292 MSL, Based on NGVD 29 FEET as shown in the City of San Diego Bench Book

STREETS REQUIRING 12" TRENCH CAP:
STREET NAMES: SORRENTO VALLEY ROAD

ABBREVIATIONS

ABAND	ABANDON	EL, ELEV	ELEVATION	OVHD	OVER HEAD
ABAND'D	ABANDONED	ELEC	ELECTRIC	PVC	POLYVINYL CHLORIDE
AC	ASBESTOS CEMENT PIPE	EX, EXIST	EXISTING	PROP	PROPOSED
AHD	AHEAD	E/O	EAST OF	RED	REDUCER
ASSY	ASSEMBLY	F	FLANGE	RT	RIGHT
BFV	BUTTERFLY VALVE	FH	FIRE HYDRANT	S (survey line symbol)	SURVEY LINE
BK	BACK	FS	FIRE SERVICE	SD&AE	SAN DIEGO & ARIZONA EASTERN RAILROAD
BTWN	BETWEEN	GV	GATE VALVE		
CATV	CABLE TV	HDPE	HIGH-DENSITY POLYETHYLENE	SDTI	SAN DIEGO TROLLEY INC.
CI	CAST IRON PIPE	HP	HIGH PRESSURE	SO	STUB OUT
℄	CENTER LINE	IE	INVERT ELEVATION	S/O	SOUTH OF
COND	CONDUIT	LT	LEFT	SWR	SEWER
CONT	CONTINUED	MJ	MECHANICAL JOINT	TEL	TELEPHONE
CONTR	CONTRACTOR	MTS	SAN DIEGO METROPOLITAN TRANSIT SYSTEM	UNK	UNKNOWN
DB	DIRECT BURIED			VC	VITRIFIED CLAY PIPE
DI	DUCTILE IRON	MTD	MULTIPLE TELEPHONE DUCT	WM	WATER METER
EB	ENCASED BURIED	N/O	NORTH OF	WTR	WATER
				W/O	WEST OF

SHEET INDEX

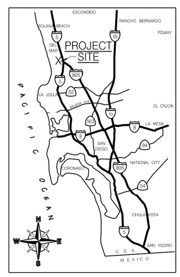
SHEET NO.	DISCIPLINE CODE	TITLE	LIMITS	PIPE SIZE (IN)	PIPE MATERIAL	LENGTH (FT)
1	G-1	COVER SHEET				
			SEWER			
2	C-1	SORRENTO VALLEY ROAD	SE OF CARMEL MTN RD TO NW CARMEL MTN RD STA 1+00 TO STA 9+69.08	8"	-	869.08
3	C-2	SORRENTO VALLEY ROAD	NW OF CARMEL MTN RD TO SE OF CARMEL MTN RD			
	C-2	SORRENTO VALLEY ROAD	STA 1+00 TO STA 1+27.85	12"	-	27.85
	C-2	SORRENTO VALLEY ROAD	STA 1+27.85 TO STA 3+11.86	10"	-	184.01
	C-2	SORRENTO VALLEY ROAD	STA 3+11.86 TO 9+00.00	8"	-	588.14
4	C-3	SORRENTO VALLEY ROAD	SE OF TRIPP COURT STA 9+00 TO STA 16+50	8"	-	750.00
5	C-4	SORRENTO VALLEY ROAD	SE OF TRIPP COURT STA 16+50 TO STA 24+50	8"	-	800.00
6	C-5	SORRENTO VALLEY ROAD	SE OF TRIPP COURT STA 24+50 TO STA 32+50	8"	-	800.00
7	C-6	SORRENTO VALLEY ROAD	SE OF TRIPP COURT STA 32+50 TO STA 35+98	8"	-	348.06
8	C-7	INDUSTRIAL COURT	SORRENTO VALLEY ROAD TO CUL-DE-SAC	8"	-	493.99
9	C-8	TRIPP COURT	SORRENTO VALLEY ROAD TO CUL-DE-SAC	8"	-	263.38
			WATER			
10	C-9	SORRENTO VALLEY ROAD	NW OF CARMEL MTN RD TO INDUSTRIAL COURT STA 1+00 TO STA 8+00	16"	-	700.00
11	C-10	SORRENTO VALLEY ROAD	NW OF CARMEL MTN RD TO SE OF TRIPP COURT STA 8+00 TO STA 16+00	16"	-	800.00
12	C-11	SORRENTO VALLEY ROAD	SE OF TRIPP COURT STA 16+00 TO STA 25+00	16"	-	900.00
13	C-12	SORRENTO VALLEY ROAD	SE OF TRIPP COURT STA 25+00 TO STA 33+00	16"	-	800.00
14	C-13	SORRENTO VALLEY ROAD	SE OF TRIPP COURT STA 33+00 TO STA 41+00	16"	-	800.00
15	C-14	SORRENTO VALLEY ROAD	SE OF TRIPP COURT STA 41+00 TO STA 43+50	16"	-	206.48
16	C-15	INDUSTRIAL COURT	SORRENTO VALLEY ROAD TO CUL-DE-SAC	12"	-	475.94
17	C-16	TRIPP COURT	SORRENTO VALLEY ROAD TO CUL-DE-SAC	12"	-	280.11
18	C-17	STREET RESURFACING		TOTAL SEWER		5124.51
19	C-18	WORK BY CITY FORCES		TOTAL WATER		4962.53
20	C-19	BATCH DISCHARGE PLAN				
21	C-20	SEWER ABANDONMENT				
22	C-21	SURVEY MONUMENTATION				
23	C-22	CURB RAMP LOCATION				
24	C-23	CURB RAMP DETAIL I				
25	C-24	CURB RAMP DETAIL 2				
26	C-25	CURB RAMP DETAIL 3				
27	C-26	WATER POLLUTION CONTROL SITE PLAN				
28	C-27	610/330 PRESSURE REDUCING STATION CIVIL SITE PLAN				
29	C-28	610/330 PRESSURE REDUCING STATION CIVIL SITE PIPING PLAN				
30	C-29	610/330 PRESSURE REDUCING STATION CIVIL PIPE CONNECTION DETAIL				
31	M-1	610/330 PRESSURE REDUCING STATION MECHANICAL PLAN				
32	M-2	610/330 PRESSURE REDUCING STATION MECHANICAL SECTIONS				
33	M-3	610/330 PRESSURE REDUCING STATION MECHANICAL DETAIL 1				
34	M-4	610/330 PRESSURE REDUCING STATION MECHANICAL DETAIL 2				
35	E-1	610/330 PRESSURE REDUCING STATION ELECTRICAL SYMBOLS AND ABBREVIATIONS				
36	E-2	610/330 PRESSURE REDUCING STATION ELECTRICAL SITE PLAN AND SINGLE LINE DIAGRAM				
37	E-3	610/330 PRESSURE REDUCING STATION POWER AND SIGNAL PLAN				
38	E-4	610/330 PRESSURE REDUCING STATION CONDUIT SCHEDULE				
39	E-5	610/330 PRESSURE REDUCING STATION ELECTRICAL DETAILS				
40	E-6	610/330 PRESSURE REDUCING STATION RCP CONTROL DIAGRAM 1				
41	E-7	610/330 PRESSURE REDUCING STATION RCP CONTROL DIAGRAM 2				
42	E-8	610/330 PRESSURE REDUCING STATION RCP CONTROL DIAGRAM 3				
43	E-9	610/330 PRESSURE REDUCING STATION RCP CONTROL DIAGRAM 4				
44	E-10	610/330 PRESSURE REDUCING STATION RCP CONTROL DIAGRAM 5				
45	E-11	610/330 PRESSURE REDUCING STATION PIT ENCLOSURE LAYOUT DIAGRAM				
46	E-12	610/330 PRESSURE REDUCING STATION RCP CONTROL LAYOUT DIAGRAM				
	T-1 THRU T-24	TRAFFIC CONTROL PLANS				

DISCIPLINE CODE

- G GENERAL
- C CIVIL
- M MECHANICAL
- E ELECTRICAL
- T TRAFFIC CONTROL

WORK TO BE DONE

CONSTRUCTION OF WATER AND SEWER GROUP 965 CONSISTS OF THE INSTALLATION OF SIXTEEN-INCH (16") WATER MAINS, TWELVE-INCH (12") WATER MAINS, WATER SERVICES, FIRE HYDRANTS, EIGHT-INCH (8"), TEN-INCH (10") & TWELVE-INCH (12") SEWER MAINS, SEWER MANHOLES, SEWER LATERALS AND ALL OTHER WORK AND APPURTENANCES IN ACCORDANCE WITH THESE SPECIFICATIONS AND DRAWINGS NUMBERED 37869-1-D THROUGH 37869-20-D.



VICINITY MAP
NOT TO SCALE

DECLARATION OF RESPONSIBLE CHARGE

* I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS. I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF SAN DIEGO IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

(signature) 9/16/20
(ENGINEER'S NAME) DATE

LEGEND

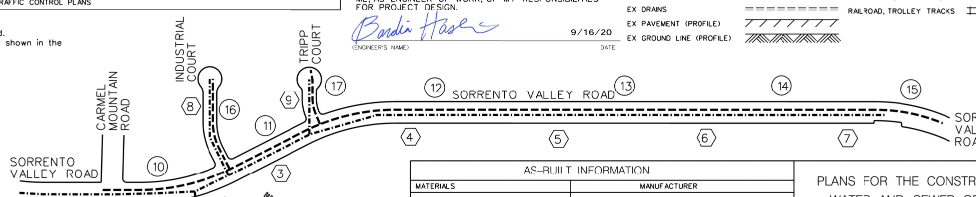
IMPROVEMENTS	REFERENCE	SYMBOL
TRENCH RESURFACING	SDG-107, SDG-108	
SEWER MAIN	SDS-101, SDS-110 (TYPE C)	
SEWER MANHOLE/PVC LINED	SDS-106, SDS-107, SDS-108, SDM-113, SDS-120, M-3, SM-07	
4" SEWER LATERAL WITH C.O. UNLESS OTHERWISE SPECIFIED	SDS-102, SDS-103, SDS-104, SDS-105, SDS-110 (TYPE C), SDS-118	P.L. / PROPOSED SEWER / S
CONCRETE PROTECTION FOR EXIST SEWER PIPE	SDS-116	
PIPE SUPPORT FOR UNDERCUT AC WATER MAIN	SDW-162	
CONCRETE ENCASEMENT	SDS-112	
ABANDON EX MANHOLE	SM-08	E
SLURRY FILL ABANDONED SEWER MAIN	SEE PLANS & SPECS	E
CUTTING AND PLUGGING ABANDONED WATER MAIN	WP-03	E
SURVEY MONUMENT	M-10C, M-10A, M-10B	
WATER MAIN & APPURTENANCES	SDM-105, SDW-110, SDW-151, SDW-161	
VALVES WITH CAPS AND WELLS	SDW-109, SDW-152, SDW-153, WV-05	
FIRE SERVICE CONNECTION & ASSEMBLY	SDM-105, SDW-109, SDW-118, SDW-152, SDW-153	P.L. / F / PROPOSED WATER
6" FIRE HYDRANT ASSEMBLY & MARKER 2-PORT UNLESS SPECIFIED AS 3-PORT	SDM-105, SDW-104, SDW-109, SDW-152, SDW-153	PROPOSED WATER
1" WATER SERVICE UNLESS OTHERWISE SPECIFIED	SDM-105, SDW-107, SDW-134, SDW-135, SDW-136, SDW-137, SDW-138, SDW-149, SDW-150, WS-03	WM / P.L. / W
BLOW-OFF ASSEMBLY	SDM-105, SDW-106, SDW-143, SDW-144, SDW-145, SDW-146, WB-05	B.O. / PROPOSED WATER
AIR & VACUUM VALVE	SDM-105, SDW-117, SDW-158, SDW-159, SDW-160	A.V.

HIGHLINING BY CONTRACTOR SDW-170, SDW-171, SDW- 172, SDW-173, SDW-174 IF APPLICABLE

FOR ADDITIONAL SYMBOLS SEE RESURFACING, CURB RAMP AND TRAFFIC CONTROL SHEETS.

EXISTING STRUCTURES

- EX WATER MAIN & VALVES
- EX WATER METER
- EX FIRE HYDRANT
- EX SEWER MAIN & MANHOLES
- EX DRAINS
- EX PAVEMENT (PROFILE)
- EX GROUND LINE (PROFILE)
- EX TRAFFIC SIGNAL TS
- EX STREET LIGHT SL
- GAS MAIN
- ELEC. COND., TEL. COND., CATV E T C
- RAILROAD, TROLLEY TRACKS



LEGEND
- PROPOSED WATER MAIN
- PROPOSED SEWER MAIN
- (4) SHEET NUMBER - SEWER
- (12) SHEET NUMBER - WATER

KEY MAP
NO SCALE

G-1

WATER AND SEWER GROUP 965

CONSTRUCTION CHANGE / ADDENDUM

CHANGE	DATE	AFFECTED OR ADDED SHEET NUMBERS	APPROVAL NO.

WARNING
0 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

The City of SAN DIEGO Public Works

AS-BUILT INFORMATION

MATERIALS	MANUFACTURER
-	-
-	-
-	-
-	-

SPEC. NO.

CONSULTANT

PARSONS
525 B ST, SUITE 1600
SAN DIEGO, CA 92101
T 619-515-5100 F 619-515-5101
WWW.PARSONS.COM

REGISTERED PROFESSIONAL ENGINEER
B. HASHEMI
No. C86659
Exp. 3/31/21
CIVIL
STATE OF CALIFORNIA

PLANS FOR THE CONSTRUCTION OF
WATER AND SEWER GROUP 965
COVER SHEET

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 1 OF 46 SHEETS

WATER WBS B-12057
SEWER WBS B-12048

APPROVED:
FOR CITY ENGINEER DATE
ALEX SLEIMAN C79741
PRINT DCE NAME RCE#

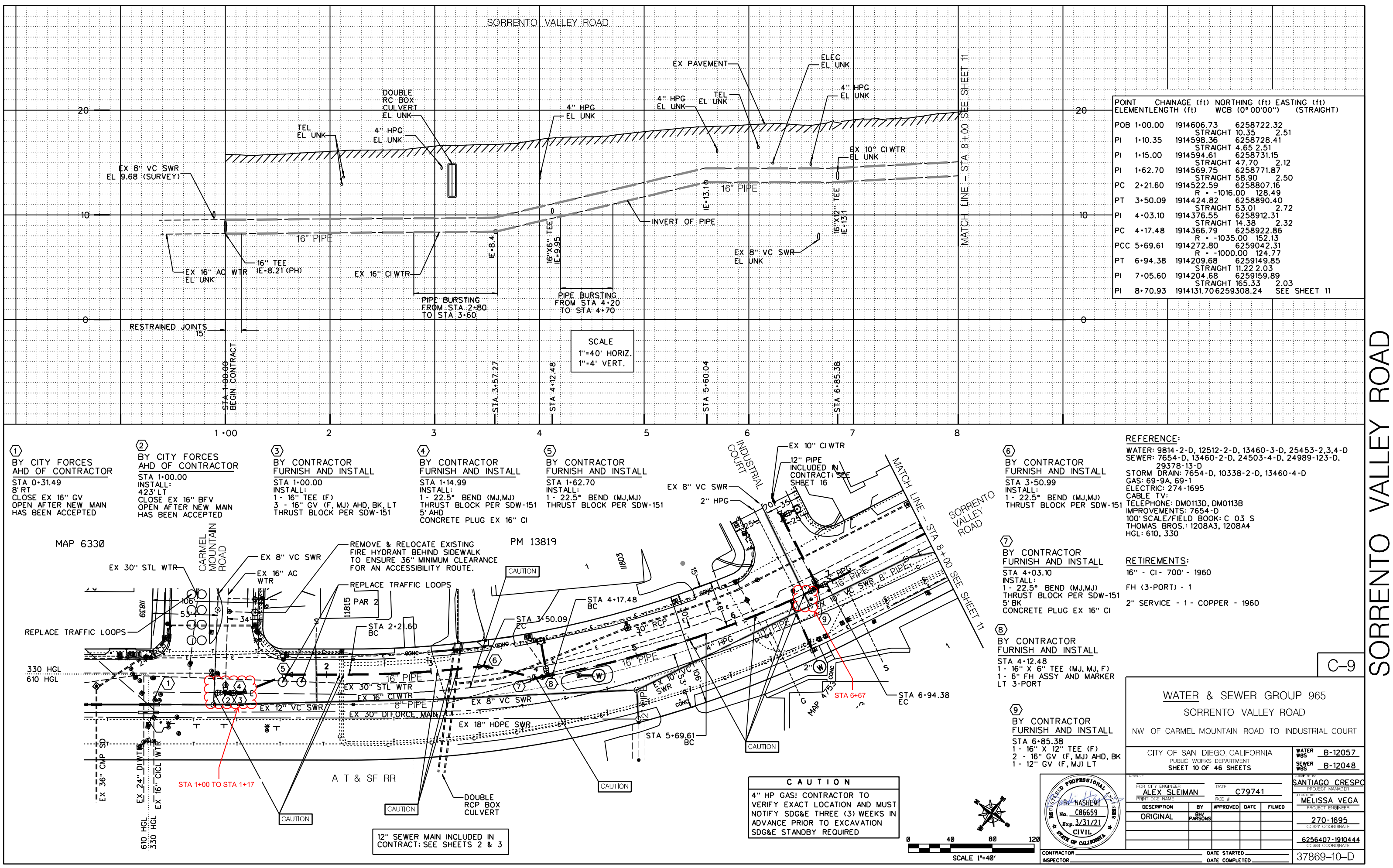
SUBMITTED BY: SANTIAGO CRESPO
PROJECT MANAGER
CHECKED BY: MELISSA VEGA
PROJECT ENGINEER

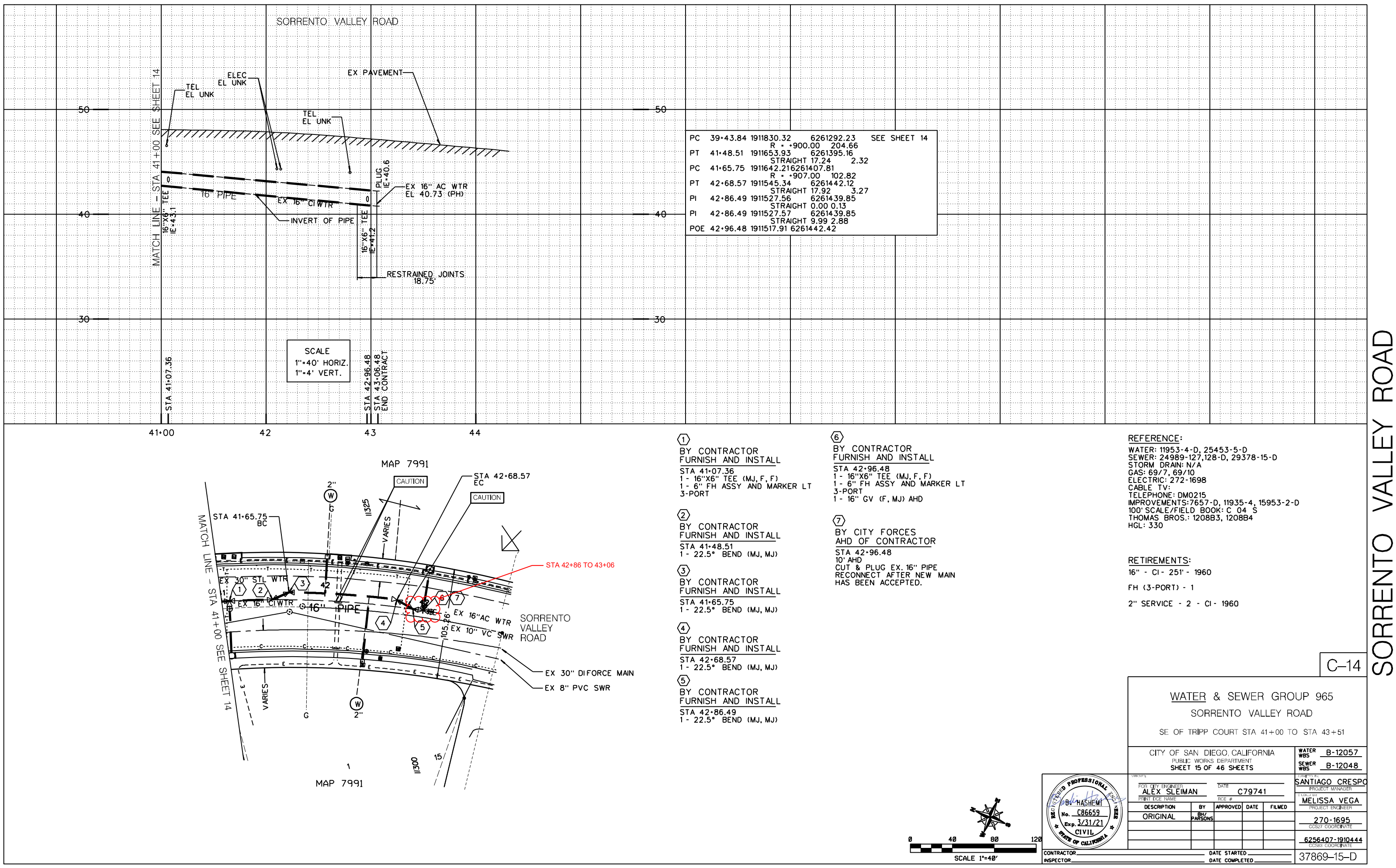
DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	BH/ PARSONS			

SEE EACH SHEET
CCS27 COORDINATE
SEE EACH SHEET
CCS83 COORDINATE

CONTRACTOR DATE STARTED
INSPECTOR DATE COMPLETED

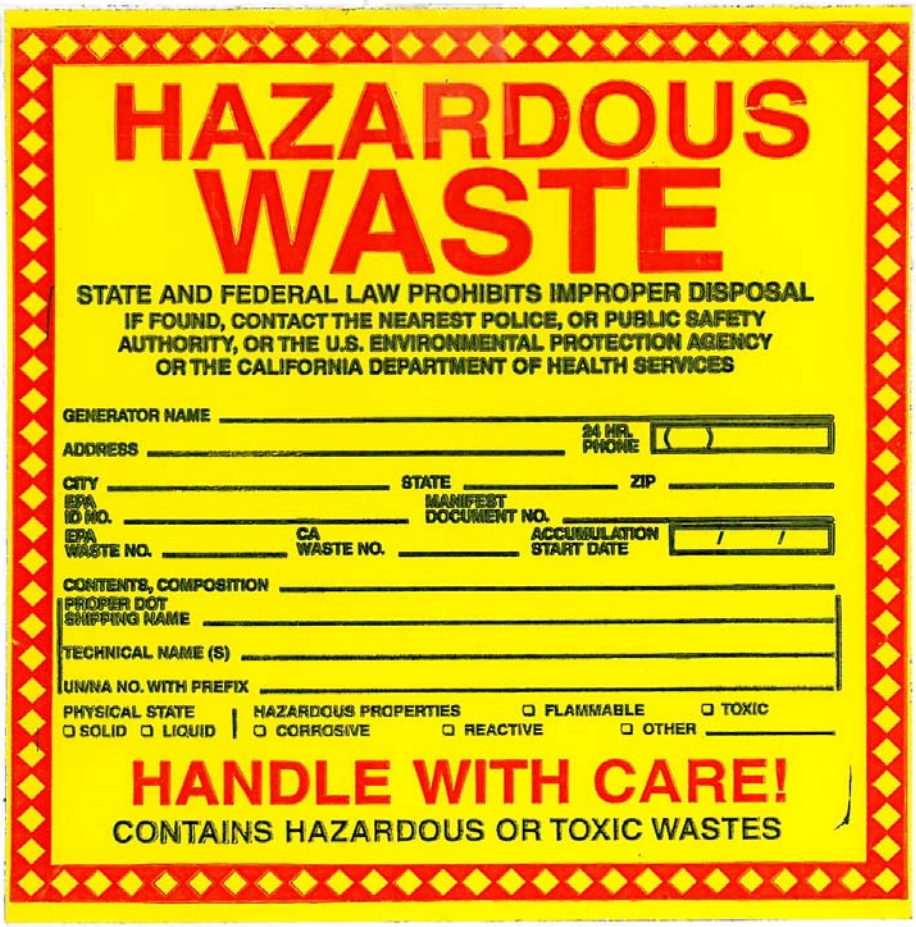
37869-01-D


SORRENTO VALLEY ROAD
POINT CHAINAGE (ft) NORTHING (ft) EASTING (ft) ELEMENTLENGTH (ft) WCB (0°00'00") (STRAIGHT)
POB 1+00.00 1914606.73 6258722.32
PI 1+10.35 1914598.36 6258728.41
PI 1+15.00 1914594.61 6258731.15
PI 1+62.70 1914569.75 6258771.87
PC 2+21.60 1914522.59 6258807.16
PT 3+50.09 1914424.82 6258890.40
PI 4+03.10 1914376.55 6258912.31
PC 4+17.48 1914366.79 6258922.86
PCC 5+69.61 1914272.80 6259042.31
PT 6+94.38 1914209.68 6259149.85
PI 7+05.60 1914204.68 6259159.89
PI 8+70.93 1914131.70 6259308.24 SEE SHEET 11
SCALE 1"=40' HORIZ. 1"=4' VERT.
PIPE BURSTING FROM STA 2+80 TO STA 3+60
PIPE BURSTING FROM STA 4+20 TO STA 4+70
MATCH LINE - STA 8+00 SEE SHEET 11
16" PIPE
INVERT OF PIPE
RESTRAINED JOINTS 15'
STA 1+00.00 BEGIN CONTRACT
STA 3+57.27
STA 4+12.48
STA 5+60.04
STA 6+85.38
① BY CITY FORCES AHD OF CONTRACTOR STA 0+31.49 8' RT CLOSE EX 16" GV OPEN AFTER NEW MAIN HAS BEEN ACCEPTED
② BY CITY FORCES AHD OF CONTRACTOR STA 1+00.00 INSTALL: 423' LT CLOSE EX 16" BFV OPEN AFTER NEW MAIN HAS BEEN ACCEPTED
③ BY CONTRACTOR FURNISH AND INSTALL STA 1+00.00 INSTALL: 1 - 16" TEE (F) 3 - 16" GV (F, MJ) AHD, BK, LT THRUST BLOCK PER SDW-151
④ BY CONTRACTOR FURNISH AND INSTALL STA 1+14.99 INSTALL: 1 - 22.5° BEND (MJ,MJ) THRUST BLOCK PER SDW-151 5' AHD CONCRETE PLUG EX 16" CI
⑤ BY CONTRACTOR FURNISH AND INSTALL STA 1+62.70 INSTALL: 1 - 22.5° BEND (MJ,MJ) THRUST BLOCK PER SDW-151
⑥ BY CONTRACTOR FURNISH AND INSTALL STA 3+50.99 INSTALL: 1 - 22.5° BEND (MJ,MJ) THRUST BLOCK PER SDW-151
⑦ BY CONTRACTOR FURNISH AND INSTALL STA 4+03.10 INSTALL: 1 - 22.5° BEND (MJ,MJ) THRUST BLOCK PER SDW-151 5' BK CONCRETE PLUG EX 16" CI
⑧ BY CONTRACTOR FURNISH AND INSTALL STA 4+12.48 1 - 16" X 6" TEE (MJ, MJ, F) 1 - 6" FH ASSY AND MARKER LT 3-PORT
⑨ BY CONTRACTOR FURNISH AND INSTALL STA 6+85.38 1 - 16" X 12" TEE (F) 2 - 16" GV (F, MJ) AHD, BK 1 - 12" GV (F, MJ) LT
REFERENCE:
WATER: 9814-2-D, 12512-2-D, 13460-3-D, 25453-2,3,4-D
SEWER: 7654-D, 13460-2-D, 24503-4-D, 24989-123-D, 29378-13-D
STORM DRAIN: 7654-D, 10338-2-D, 13460-4-D
GAS: 69-9A, 69-1
ELECTRIC: 274-1695
CABLE TV:
TELEPHONE: DM0113D, DM0113B
IMPROVEMENTS: 7654-D
100' SCALE/FIELD BOOK: C 03 S
THOMAS BROS.: 1208A3, 1208A4
HGL: 610, 330
RETIREMENTS:
16" - CI - 700' - 1960
FH (3-PORT) - 1
2" SERVICE - 1 - COPPER - 1960
REMOVE & RELOCATE EXISTING FIRE HYDRANT BEHIND SIDEWALK TO ENSURE 36" MINIMUM CLEARANCE FOR AN ACCESSIBILITY ROUTE.
REPLACE TRAFFIC LOOPS
CAUTION
4" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED
12" SEWER MAIN INCLUDED IN CONTRACT; SEE SHEETS 2 & 3
STA 1+00 TO STA 1+17
STA 6+67
CARMEL MOUNTAIN ROAD
INDUSTRIAL COURT
A T & SF RR
MAP 6330
PM 13819
C-9
WATER & SEWER GROUP 965
SORRENTO VALLEY ROAD
NW OF CARMEL MOUNTAIN ROAD TO INDUSTRIAL COURT
CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 10 OF 46 SHEETS
WATER WBS B-12057
SEWER WBS B-12048
ALEX SLEIMAN C79741
SANTIAGO CRESPO
MELISSA VEGA
270-1695
6256407-1910444
37869-10-D
SCALE 1"=40'
SORRENTO VALLEY ROAD


SORRENTO VALLEY ROAD
EX PAVEMENT
ELEC EL UNK
TEL EL UNK
MATCH LINE - STA 41+00 SEE SHEET 14
16"X6" TEE IE 43.1
16" PIPE
EX 16" CIWTR
INVERT OF PIPE
PLUG IE 40.6
EX 16" AC WTR EL 40.73 (PH)
16"X6" TEE IE 41.2
RESTRAINED JOINTS 18.75'
PC 39+43.84 1911830.32 6261292.23 SEE SHEET 14
R = +900.00 204.66
PT 41+48.51 1911653.93 6261395.16
STRAIGHT 17.24 2.32
PC 41+65.75 1911642.216261407.81
R = +907.00 102.82
PT 42+68.57 1911545.34 6261442.12
STRAIGHT 17.92 3.27
PI 42+86.49 1911527.56 6261439.85
STRAIGHT 0.00 0.13
PI 42+86.49 1911527.57 6261439.85
STRAIGHT 9.99 2.88
POE 42+96.48 1911517.91 6261442.42
SCALE
1"=40' HORIZ.
1"=4' VERT.
STA 41+07.36
STA 42+96.48
STA 43+06.48 END CONTRACT
41+00
42
43
44
50
40
30
MAP 7991
STA 41+65.75 BC
STA 42+68.57 EC
CAUTION
STA 42+86 TO 43+06
EX 30" STL WTR
EX 16" CIWTR
16" PIPE
EX 16"AC WTR
EX 10" VC SWR
SORRENTO VALLEY ROAD
EX 30" D/FORCE MAIN
EX 8" PVC SWR
VARES
MATCH LINE - STA 41+00 SEE SHEET 14
SCALE 1"=40'
0 40 80 120
1
BY CONTRACTOR
FURNISH AND INSTALL
STA 41+07.36
1 - 16"X6" TEE (MJ, F, F)
1 - 6" FH ASSY AND MARKER LT
3-PORT
2
BY CONTRACTOR
FURNISH AND INSTALL
STA 41+48.51
1 - 22.5° BEND (MJ, MJ)
3
BY CONTRACTOR
FURNISH AND INSTALL
STA 41+65.75
1 - 22.5° BEND (MJ, MJ)
4
BY CONTRACTOR
FURNISH AND INSTALL
STA 42+68.57
1 - 22.5° BEND (MJ, MJ)
5
BY CONTRACTOR
FURNISH AND INSTALL
STA 42+86.49
1 - 22.5° BEND (MJ, MJ)
6
BY CONTRACTOR
FURNISH AND INSTALL
STA 42+96.48
1 - 16"X6" TEE (MJ, F, F)
1 - 6" FH ASSY AND MARKER LT
3-PORT
1 - 16" GV (F, MJ) AHD
7
BY CITY FORCES
AHD OF CONTRACTOR
STA 42+96.48
10' AHD
CUT & PLUG EX. 16" PIPE
RECONNECT AFTER NEW MAIN
HAS BEEN ACCEPTED.
REFERENCE:
WATER: 11953-4-D, 25453-5-D
SEWER: 24989-127,128-D, 29378-15-D
STORM DRAIN: N/A
GAS: 69/7, 69/10
ELECTRIC: 272-1698
CABLE TV:
TELEPHONE: DM0215
IMPROVEMENTS:7657-D, 11935-4, 15953-2-D
100' SCALE/FIELD BOOK: C 04 S
THOMAS BROS.: 1208B3, 1208B4
HGL: 330
RETIREMENTS:
16" - CI - 251' - 1960
FH (3-PORT) - 1
2" SERVICE - 2 - CI - 1960
C–14
WATER & SEWER GROUP 965
SORRENTO VALLEY ROAD
SE OF TRIPP COURT STA 41+00 TO STA 43+51
CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 15 OF 46 SHEETS
WATER WBS B-12057
SEWER WBS B-12048
FOR CITY ENGINEER ALEX SLEIMAN
DATE C79741
PRINT DCE NAME RCE #
SANTIAGO CRESPO PROJECT MANAGER
MELISSA VEGA PROJECT ENGINEER
DESCRIPTION BY APPROVED DATE FILMED
ORIGINAL BH/PARSONS
270-1695 CCS27 COORDINATE
6256407-1910444 CCS83 COORDINATE
REGISTERED PROFESSIONAL ENGINEER
B. HASHEMI
No. C86659
Exp. 3/31/21
CIVIL
STATE OF CALIFORNIA
CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED
37869–15–D
SORRENTO VALLEY ROAD

APPENDIX H

HAZARDOUS WASTE LABEL/FORMS


HAZARDOUS
WASTE
STATE AND FEDERAL LAW PROHIBITS IMPROPER DISPOSAL
IF FOUND, CONTACT THE NEAREST POLICE, OR PUBLIC SAFETY
AUTHORITY, OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY
OR THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES
GENERATOR NAME
ADDRESS
24 HR. PHONE
CITY
STATE
ZIP
EPA ID NO.
MANIFEST DOCUMENT NO.
EPA WASTE NO.
CA WASTE NO.
ACCUMULATION START DATE
CONTENTS, COMPOSITION
PROPER DOT SHIPPING NAME
TECHNICAL NAME (S)
UN/NA NO. WITH PREFIX
PHYSICAL STATE
SOLID
LIQUID
HAZARDOUS PROPERTIES
CORROSIVE
REACTIVE
FLAMMABLE
TOXIC
OTHER
HANDLE WITH CARE!
CONTAINS HAZARDOUS OR TOXIC WASTES

INCIDENT/RELEASE ASSESSMENT FORM [1]

If you have an emergency, Call 911

Handlers of hazardous materials are required to report releases. The following is a tool to be used for assessing if a release is reportable. Additionally, a non-reportable release incident form is provided to document why a release is not reported (see back).

Questions for Incident Assessment:	YES	NO
1. Was anyone killed or injured, or did they require medical care or admitted to a hospital for observation?	❒	❒
2. Did anyone, other than employees in the immediate area of the release, evacuate?	❒	❒
3. Did the release cause off-site damage to public or private property?	❒	❒
4. Is the release greater than or equal to a reportable quantity (RQ)?	❒	❒
5. Was there an uncontrolled or unpermitted release to the air?	❒	❒
6. Did an uncontrolled or unpermitted release escape secondary containment, or extend into any sewers, storm water conveyance systems, utility vaults and conduits, wetlands, waterways, public roads, or off site?	❒	❒
7. Will control, containment, decontamination, and/or clean up require the assistance of federal, state, county, or municipal response elements?	❒	❒
8. Was the release or threatened release involving an unknown material or contains an unknown hazardous constituent?	❒	❒
9. Is the incident a threatened release (a condition creating a substantial probability of harm that requires immediate action to prevent, reduce, or mitigate damages to persons, property, or the environment)?	❒	❒
10. Is there an increased potential for secondary effects including fire, explosion, line rupture, equipment failure, or other outcomes that may endanger or cause exposure to employees, the general public, or the environment?	❒	❒

If the answer is YES to any of the above questions – report the release to the California Office of Emergency Services at 800-852-7550 and the local CUPA daytime: (619) 338-2284, after hours: (858) 565-5255. Note: other state and federal agencies may require notification depending on the circumstances.

Call 911 in an emergency

If all answers are NO, complete a Non Reportable Release Incident Form (page 2 of 2) and keep readily available. Documenting why a "no" response was made to each question will serve useful in the event questions are asked in the future, and to justify not reporting to an outside regulatory agency.

If in doubt, report the release.

[1] This document is a guide for accessing when hazardous materials release reporting is required by Chapter 6.95 of the California Health and Safety Code. It does not replace good judgment, Chapter 6.95, or other state or federal release reporting requirements.

NON REPORTABLE RELEASE INCIDENT FORM

1. RELEASE AND RESPONSE DESCRIPTION Incident #_____

Date/Time Discovered	Date/Time Discharge	Discharge Stopped ☐ Yes ☐ No
Incident Date / Time:		
Incident Business / Site Name:		
Incident Address:		
Other Locators (Bldg, Room, Oil Field, Lease, Well #, GIS)		
Please describe the incident and indicate specific causes and area affected. Photos Attached?: ☐Yes ☐No		
Indicate actions to be taken to prevent similar releases from occurring in the future.		

2. ADMINISTRATIVE INFORMATION

Supervisor in charge at time of incident:	Phone:
Contact Person:	Phone:

3. CHEMICAL INFORMATION

Chemical	Quantity ☐ GAL ☐ LBS ☐ FT^3
Chemical	Quantity ☐ GAL ☐ LBS ☐ FT^3
Chemical	Quantity ☐ GAL ☐ LBS ☐ FT^3
Clean-Up Procedures & Timeline:	
Completed By:	Phone:
Print Name:	Title:

EMERGENCY RELEASE FOLLOW - UP NOTICE REPORTING FORM

A

BUSINESS NAME	FACILITY EMERGENCY CONTACT & PHONE NUMBER ( ) -

B

INCIDENT DATE MO DAY YR	TIME OES NOTIFIED (use 24 hr time)	OES CONTROL NO.

C

INCIDENT ADDRESS LOCATION	CITY / COMMUNITY	COUNTY ZIP

D

CHEMICAL OR TRADE NAME (print or type)	CAS Number

CHECK IF CHEMICAL IS LISTED IN 40 CFR 355, APPENDIX A ☐	CHECK IF RELEASE REQUIRES NOTIFI - CATION UNDER 42 U.S.C. Section 9603 (a) ☐

PHYSICAL STATE CONTAINED ☐ SOLID ☐ LIQUID ☐ GAS	PHYSICAL STATE RELEASED ☐ SOLID ☐ LIQUID ☐ GAS	QUANTITY RELEASED

ENVIRONMENTAL CONTAMINATION ☐ AIR ☐ WATER ☐ GROUND ☐ OTHER	TIME OF RELEASE	DURATION OF RELEASE ___DAYS ___HOURS ___MINUTES

E

ACTIONS TAKEN

F

KNOWN OR ANTICIPATED HEALTH EFFECTS (Use the comments section for addition information)

☐ ACUTE OR IMMEDIATE (explain) _____

☐ CHRONIC OR DELAYED (explain) _____

☐ NOTKNOWN (explain)

G

ADVICE REGARDING MEDICAL ATTENTION NECESSARY FOR EXPOSED INDIVIDUALS

H

COMMENTS (INDICATE SECTION (A - G) AND ITEM WITH COMMENTS OR ADDITIONAL INFORMATION)

I

CERTIFICATION: I certify under penalty of law that I have personally examined and I am familiar with the information submitted and believe the submitted information is true, accurate, and complete.

REPORTING FACILITY REPRESENTATIVE (print or type) _____

SIGNATURE OF REPORTING FACILITY REPRESENTATIVE _____ DATE: _____

EMERGENCY RELEASE FOLLOW-UP NOTICE
REPORTING FORM INSTRUCTIONS

GENERAL INFORMATION:

Chapter 6.95 of Division 20 of the California Health and Safety Code requires that written emergency release follow-up notices prepared pursuant to 42 U.S.C. § 11004, be submitted using this reporting form. Non-permitted releases of reportable quantities of Extremely Hazardous Substances (listed in 40 CFR 355, appendix A) or of chemicals that require release reporting under section 103(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 [42 U.S.C. § 9603(a)] must be reported on the form, as soon as practicable, but no later than 30 days, following a release. The written follow-up report is required in addition to the verbal notification.

BASIC INSTRUCTIONS:

- The form, when filled out, reports follow-up information required by 42 U.S.C § 11004. Ensure that all information requested by the form is provided as completely as possible.
- If the incident involves reportable releases of more than one chemical, prepare one report form for each chemical released.
- If the incident involves a series of separate releases of chemical(s) at different times, the releases should be reported on separate reporting forms.

SPECIFIC INSTRUCTIONS:

Block A: Enter the name of the business and the name and phone number of a contact person who can provide detailed facility information concerning the release.

Block B: Enter the date of the incident and the time that verbal notification was made to OES. The OES control number is provided to the caller by OES at the time verbal notification is made. Enter this control number in the space provided.

Block C: Provide information pertaining to the location where the release occurred. Include the street address, the city or community, the county and the zip code.

Block D: Provide information concerning the specific chemical that was released. Include the chemical or trade name and the Chemical Abstract Service (CAS) number. Check all categories that apply. Provide best available information on quantity, time and duration of the release.

Block E: Indicate all actions taken to respond to and contain the release as specified in 42 U.S.C. § 11004(c).

Block F: Check the categories that apply to the health effects that occurred or could result from the release. Provide an explanation or description of the effects in the space provided. Use Block H for additional comments/information if necessary to meet requirements specified in 42 U.S.C. § 11004(c).

Block G: Include information on the type of medical attention required for exposure to the chemical released. Indicate when and how this information was made available to individuals exposed and to medical personnel, if appropriate for the incident, as specified in 42 U.S.C. § 11004(c).

Block H: List any additional pertinent information.

Block I: Print or type the name of the facility representative submitting the report. Include the official signature and the date that the form was prepared.

MAIL THE COMPLETED REPORT TO:

State Emergency Response Commission (SERC)
Attn: Section 304 Reports
Hazardous Materials Unit
3650 Schriever Avenue
Mather, CA 95655

NOTE: Authority cited: Sections 25503, 25503.1 and 25507.1, Health and Safety Code. Reference: Sections 25503(b)(4), 25503.1, 25507.1, 25518 and 25520, Health and Safety Code.

APPENDIX I

SAMPLE ARCHAEOLOGY INVOICE

(FOR ARCHAEOLOGY ONLY)
Company Name
Address, telephone, fax

Date: Insert Date

To: Name of Resident Engineer
City of San Diego
Construction Management and
Field Services Division
9573 Chesapeake Drive
San Diego, CA 92123-1304

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 J

SAMPLE OF PUBLIC NOTICE

The City of SAN DIEGO

CONSTRUCTION NOTICE

PROJECT TITLE

Work on your street will begin within one week to replace the existing water mains servicing your community.

The work will consist of:

- Saw-cutting and trench work on Ingulf Street from Morena Boulevard to Galveston Street to install new water mains, water laterals and fire hydrants.
- Streets where trenching takes place will be resurfaced and curb ramps will be upgraded to facilitate access for persons with disabilities where required.
- This work is anticipated to be complete in your community by December 2016.

How your neighborhood may be impacted:

- Water service to some properties during construction will be provided by a two-inch highline pipe that will run along the curb. To report a highline leak call 619-515-3525.
- Temporary water service disruptions are planned. If planned disruptions impact your property, you will receive advance notice.
- Parking restrictions will exist because of the presence of construction equipment and materials.
- "No Parking" signs will be displayed 72 hours in advance of the work.
- Cars parked in violation of signs will be TOWED.

Hours and Days of Operation:
Monday through Friday X:XX AM to X:XX PM.

City of San Diego Contractor:
Company Name, XXX-XXX-XXXX

To contact the City of San Diego: SD Public Works
619-533-4207 | engineering@sandiego.gov | sandiego.gov/CIP

This information is available in alternative formats upon request.

The City of SAN DIEGO

CONSTRUCTION NOTICE

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Hours and Days of Operation:
Monday through Friday X:XX AM to X:XX PM.

City of San Diego Contractor:
Company Name, XXX-XXX-XXXX

To contact the City of San Diego: SD Public Works
619-533-4207 | engineering@sandiego.gov | sandiego.gov/CIP

This information is available in alternative formats upon request.

APPENDIX K

ADVANCED METERING INFRASTRUCTURE (AMI) DEVICE PROTECTION

Protecting AMI Devices in Meter Boxes and on Street Lights

The Public Utilities Department (PUD) has begun the installation of the Advanced Metering Infrastructure (AMI) technology as a new tool to enhance water meter reading accuracy and efficiency, customer service and billing, and to be used by individual accounts to better manage the efficient use of water. **All AMI devices shall be protected per Section 402-2, "Protection", of the 2021 Whitebook.**

AMI technology allows water meters to be read electronically rather than through direct visual inspection by PUD field staff. This will assist PUD staff and customers in managing unusual consumption patterns which could indicate leaks or meter tampering on a customer's property.

Three of the main components of an AMI system are the:

A. Endpoints, see Photo 1:

Photo 1

B. AMI Antenna attached to Endpoint (antenna not always required), see Photo 2:

Photo 2

100W+ ERT Module with TTL antenna

Network Devices, see Photo 3:

Photo 3

AMI endpoints transmit meter information to the AMI system and will soon be on the vast majority of meters in San Diego. These AMI devices provide interval consumption data to the PUD's Customer Support Division. If these devices are damaged or communication is interrupted, this Division will be alerted of the situation. The endpoints are installed in water meter boxes, coffins, and vaults adjacent to the meter. A separate flat round antenna may also be installed through the meter box lid. This antenna is connected to the endpoint via cable. The following proper installation shall be implemented when removing the lid to avoid damaging the antenna, cable, and/or endpoint. Photo 4 below demonstrates a diagram of the connection:

Photo 4

The AMI device ERT/Endpoint/Transmitter shall be positioned and installed as discussed in this Appendix. If the ERT/Endpoint/Transmitter is disturbed, it shall be re-installed and returned to its original installation with the end points pointed upwards as shown below in Photo 5.

The PUD's code compliance staff will issue citations and invoices to you for any damaged AMI devices that are not re-installed as discussed in the Contract Document
Photo 5 below shows a typical installation of an AMI endpoint on a water meter.

Photo 5

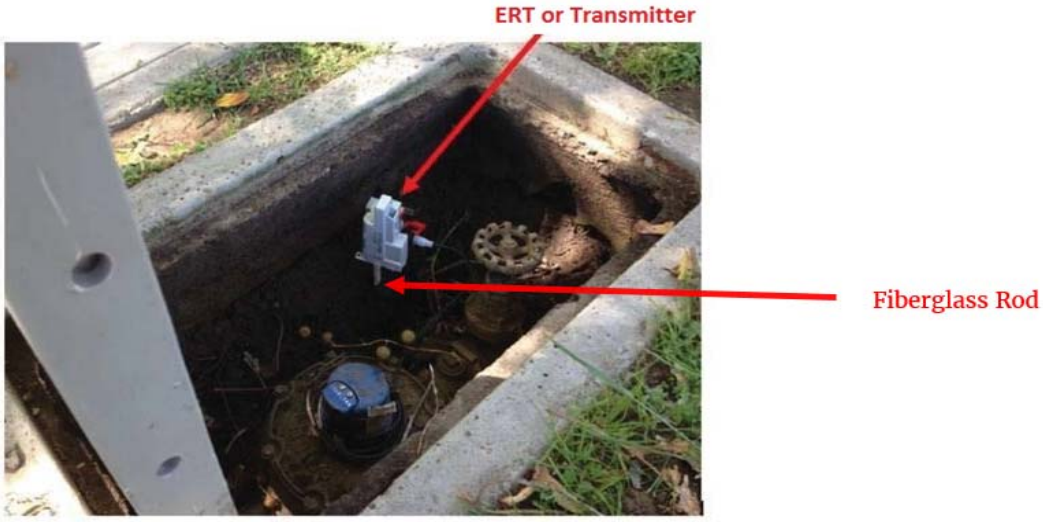


Photo 6 below is an example of disturbance that shall be avoided:

Photo 6

You are responsible when working in and around meter boxes. If you encounter these endpoints, use proper care and do not disconnect them from the registers on top of the water meter. If the lid has an antenna drilled through, do not change or tamper with the lid and inform the Resident Engineer immediately about the location of that lid. Refer to Photo 7 below:

Photo 7

Another component of the AMI system are the Network Devices. The Network Devices are strategically placed units (mainly on street light poles) that collect interval meter reading data from multiple meters for transmission to the Department Control Computer. **If you come across any of these devices on street lights that will be removed or replaced (refer to Photos 8 and 9 below), notify Elvira Santiesteban, Compliance & Metering Manager 619-380-3804 and Kevin Wilson, Senior Water Utility Supervisor 619-857-8257 immediately.**

Photo 8 shows an installed network device on a street light. On the back of each Network Device is a sticker with contact information. See Photo 9. **Call PUD Water Emergency Repairs at 619-515-3525 if your work will impact these street lights.** These are assets that belong to the City of San Diego and you shall be responsible for any costs of disruption of this network.

Photo 8

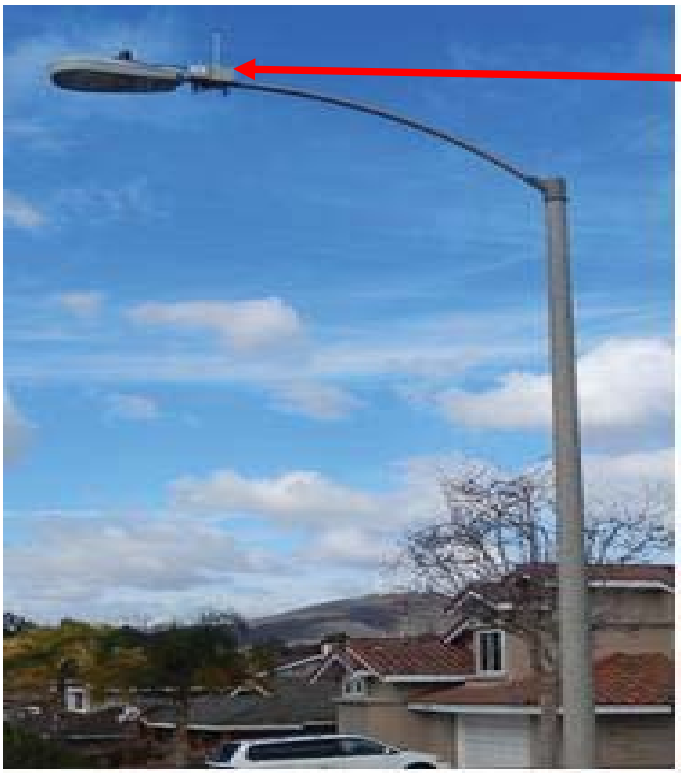
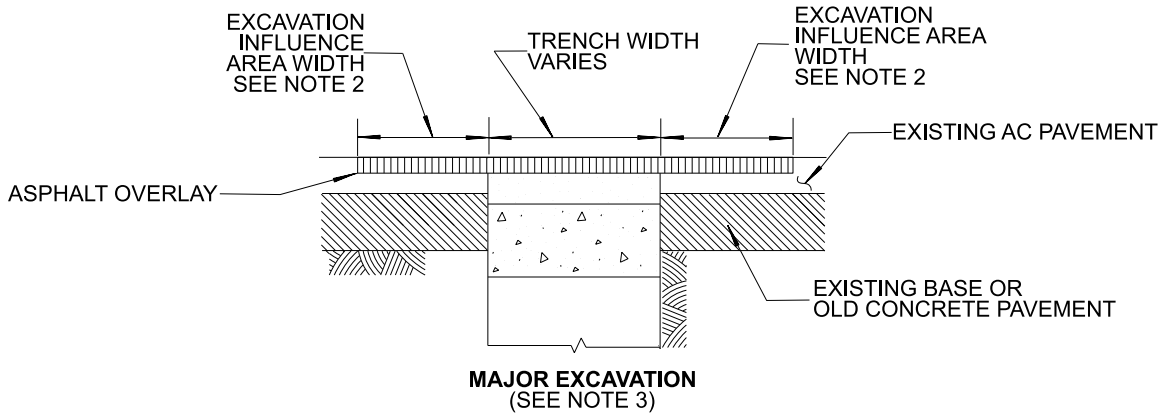


Photo 9

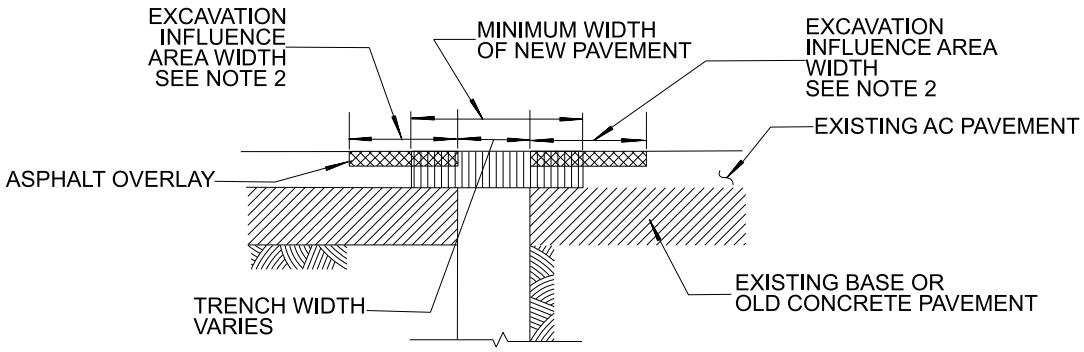
If you encounter any bad installations, disconnected/broken/buried endpoints, or inadvertently damage any AMI devices or cables, notify the Resident Engineer immediately. The Resident Engineer will then immediately contact Elvira Santiesteban, Compliance & Metering Manager 619-380-3804 and Kevin Wilson, Senior Water Utility Supervisor 619-857-8257.

APPENDIX L

STANDARD DRAWINGS



MAJOR EXCAVATION
(SEE NOTE 3)



MINOR EXCAVATION
(SEE NOTE 4)

NOTES:

1. EXCAVATION INFLUENCE AREA MEANS THE AREA THAT IS IMPACTED BY THE EXCAVATION AS DETERMINED BY THE ENGINEER AND EXTENDS AROUND THE PERIMETER OF THE EXCAVATION AS SET FORTH IN THE TABLE 62-12A IN SECTION 62.1209 OF SAN DIEGO MUNICIPAL CODE.

2. THE EXCAVATION INFLUENCE AREA EXTENDS AROUND THE PERIMETER OF THE EXCAVATION AS SHOWN IN TABLE 1.

TABLE 1. EXCAVATION INFLUENCE AREA WIDTH

STREET CLASSIFICATION	WET UTILITIES	DRY UTILITIES
ARTERIAL STREETS	62 INCHES	51 INCHES
MAJOR STREETS	71 INCHES	55 INCHES
COLLECTOR STREETS	82 INCHES	43 INCHES
RESIDENTIAL STREETS	74 INCHES	46 INCHES

3. MAJOR EXCAVATION MEANS AN EXCAVATION INVOLVING A TRENCH GREATER THAN 6 INCHES IN WIDTH OR GREATER THAN 3 FEET IN DEPTH.

4. MINOR EXCAVATION MEANS AN EXCAVATION INVOLVING A TRENCH 6 INCHES OR LESS IN WIDTH AND 3 FEET OR LESS IN DEPTH.

REVISION	BY	APPROVED	DATE
ORIGINAL		R. AMEN	09/23

CITY OF SAN DIEGO – STANDARD DRAWING

PAVEMENT RESTORATION GENERAL NOTES

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

DRAFT

COORDINATOR R.C.E. 81047 DATE

DRAWING NUMBER **SDG-105**

NOTES (CONTINUED):

5. ADDITIONAL REPAIRS FOR MAJOR EXCAVATIONS AND MINOR EXCAVATIONS (FOR WET AND DRY UTILITIES): THE PURPOSE OF THE ADDITIONAL PAVEMENT REPAIRS, INCLUDING BUT NOT LIMITED TO BASE AND SUB-BASE REPAIRS, DIG-OUTS, INLAYS, IS TO RESTORE THE SURFACE PAVEMENT TO ITS ORIGINAL CONDITION AND TO ENSURE PUBLIC SAFETY.

6. REPAIRS TO THE EXISTING PAVEMENT WITH OBSERVABLE FAILURES WITHIN THE EXCAVATION INFLUENCE AREA PER TABLE 1 SHALL BE PERFORMED AS DIRECTED BY THE ENGINEER. THE EXCAVATION INFLUENCE AREA IS MEASURED FROM THE OUTER EDGE OF THE TRENCH CUT EXCAVATION AND MUST BE RESURFACED REGARDLESS OF THE EXISTENCE OF OBSERVABLE FAILURE.

7. FOR ALTERNATIVE COMPLIANCE, PAVEMENT RESTORATION (MILL AND PAVE) MAY EXTEND TO THE FULL WIDTH OF OF THE IMPACTED TRAVEL LANE(S) WHERE THE STREET DAMAGE FEE WILL BE WAIVED. FOR UNMARKED TRAVEL LANES, THE CENTERLINE OF THE STREET OR INTERSECTION WILL BE CONSIDERED AS A REFERENCE FOR THE EXTENT OF THE LANE WIDTH TO CURB LINE OR POINT OF CURB RETURN (PCR).

REVISION	BY	APPROVED	DATE
ORIGINAL		R. AMEN	09/23

CITY OF SAN DIEGO – STANDARD DRAWING

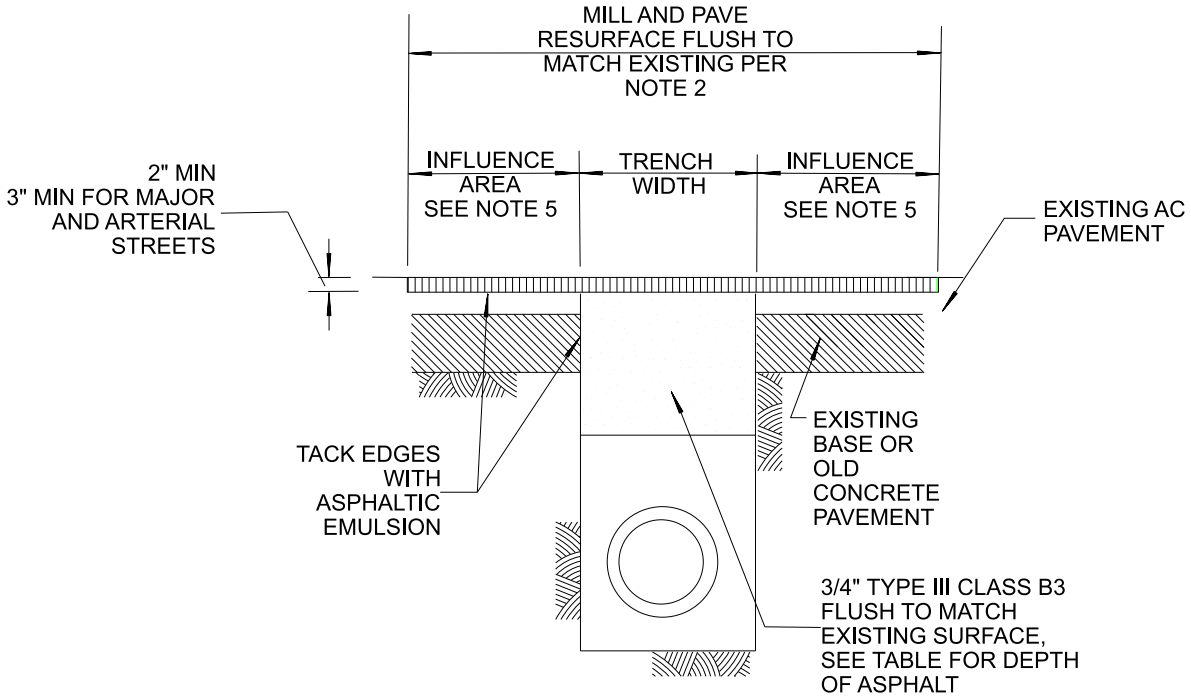
PAVEMENT RESTORATION GENERAL NOTES

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

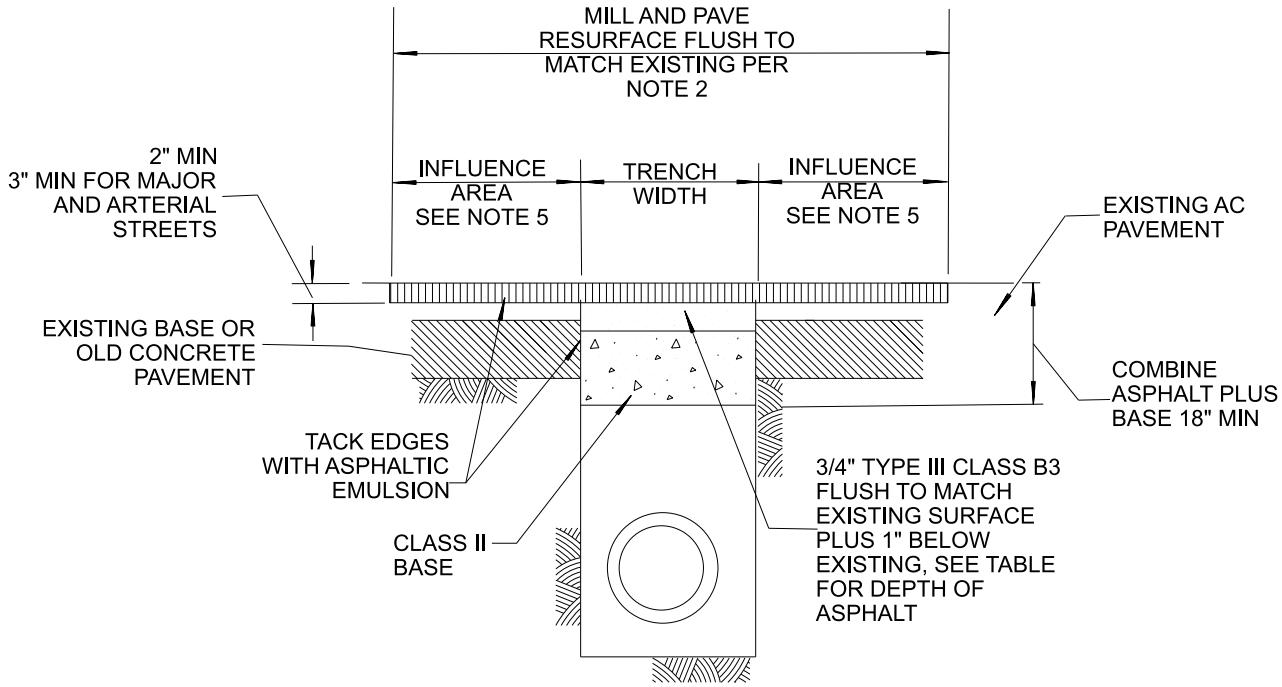
DRAFT

COORDINATOR R.C.E. 81047 DATE

DRAWING NUMBER **SDG-105**



TYPE 1



TYPE 2

REVISION	BY	APPROVED	DATE
ORIGINAL		J.P. CASEY	1/24/89
UPDATED	KA	J. NAGELVOORT	4/13
UPDATED	BB	J. NAGELVOORT	1/14
UPDATED	LS	J. NAGELVOORT	02/16
UPDATED	JN	J. NAGELVOORT	11/17
REDRAFTED	CD	J. NAGELVOORT	09/18
UPDATED	ED	R. AMEN	09/23

CITY OF SAN DIEGO – STANDARD DRAWING

PAVEMENT RESTORATION FOR ASPHALT CONCRETE SURFACED STREETS - MAJOR EXCAVATION

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

DRAFT

COORDINATOR R.C.E. 81047 DATE

DRAWING NUMBER **SDG-107**

TABLE 1

	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. IN STREETS NOT RECIEVING A FULL WIDTH OVERLAY PRIOR TO ACCEPTANCE, ASPHALT TRENCH CAPS SHALL BE MILLED AS SHOWN AND RESURFACED WITH 1/2" TYPE III CLASS C2 ASPHALT NO LESS THAN 30 CALENDAR DAYS AFTER INITIAL ASPHALT PLACEMENT.

3. IF THE STREET IS NOT SUBJECT TO CURB TO CURB ASPHALT OVERLAY, IT MUST COMPLETE FINAL STREET RESTORATION WITHIN 180 CALENDAR DAYS OF THE TRENCH CAP.

4. 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.

5. ASPHALT OVERLAY THE ENTIRE LENGTH OF THE TRENCH INCLUDING THE INFLUENCE AREA AROUND THE PERIMETER OF THE EXCAVATION PER TABLE 1 IN SDG-105.

   A. IF THE TRENCH OR EXCAVATION INFLUENCE AREA ENTERS A BICYCLE LANE, THE ENTIRE WIDTH OF THE BICYCLE SHALL BE ASPHALT OVERLAYED AND RESTRIPED FOR THE LENGTH OF THE TRENCH INCLUDING EXCAVATION INFLUENCE AREA. REPLACE IN KIND ANY EXISTING DELINEATORS.

6. EXCAVATOR SHALL ASPHALT OVERLAY IN MORATORIUM STREETS UNDER MORATORIUM DUE TO NEW CONSTRUCTION,RECONSTRUCTION, OR ASPHALT OVERLAY WITHIN 180 WORKING DAYS AFTER THE ENGINEER APPROVES THE TRENCH REPAIR.

REVISION	BY	APPROVED	DATE
ORIGINAL		J.P. CASEY	1/24/89
UPDATED	KA	J. NAGELVOORT	4/13
UPDATED	BB	J. NAGELVOORT	1/14
UPDATED	LS	J. NAGELVOORT	02/16
UPDATED	JN	J. NAGELVOORT	11/17
REDRAFTED	CD	J. NAGELVOORT	09/18
UPDATED	ED	R. AMEN	10/23

CITY OF SAN DIEGO – STANDARD DRAWING

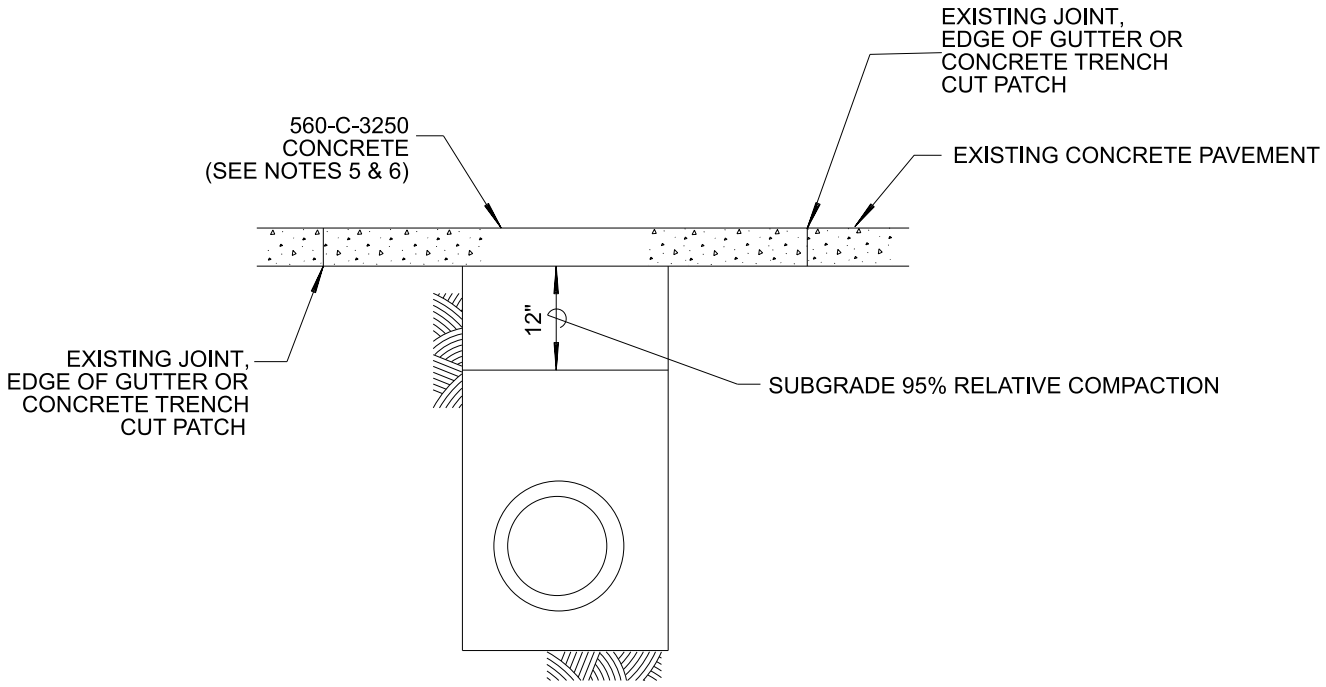
PAVEMENT RESTORATION FOR ASPHALT CONCRETE SURFACED STREETS - MAJOR EXCAVATION

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

DRAFT

COORDINATOR R.C.E. 81047 DATE

DRAWING NUMBER **SDG-107**



NOTES:

1. CONCRETE PAVEMENT RESTORATION SHALL EXTEND BEYOND THE EDGE OF THE TRENCH CUT TO THE NEAREST JOINT (FULL WIDTH OF CONCRETE PANEL, JOINT TO JOINT AROUND THE PERIMETER OF THE EXCAVATION) OR TO THE EDGE OF THE GUTTER. IF NO GUTTER IS PRESENT, EXTEND THE RESTORATION TO THE NEAREST CURB.

   A. FOR CONCRETE PAVEMENT WITH EXISTING TRENCH CUT PATCHES THAT ARE 4'-0" OR LESS FROM THE EDGE OF THE EXCAVATION, CONCRETE PAVEMENT RESTORATION SHALL INCLUDE REMOVING THE EXISTING TRENCH CUT PATCHES AND REPLACING IT WITHIN THE NEW PCC CONSTRUCTION FOR THE NEW PANEL.

   B. IF TRENCH CUT IS IN ALLEY APRON, CONCRETE RESTORATION SHALL BE TO THE NEAREST JOINT OR REPLACE ENTIRE ALLEY APRON IF NO JOINT. FOR NON-STANDARD ALLEY, INSTALL NEW CONCRETE PAVEMENT AS NEW JOINTS CAN BE INSTALLED TO THE EXTENTS OF THE RIGHT-OF-WAY.

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'-0" IN WIDTH OR GREATER AND LONGER THAN 100'-0" IN LENGTH SHALL BE RECONSTRUCTED WITH THE PAVEMENT SECTION FOR THE STREET CLASSIFICATION **PER SCHEDULE "J" (SDG-113).** STREET TRENCH SECTIONS 7'-0" IN WIDTH OR GREATER BUT LESS THAN 100'-0" 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 (W/O CC) CONCRETE MAY BE OPENED TO TRAFFIC 3 DAYS AFTER IT IS PLACED. 650-CW-4000 CONCRETE TREATED IN SAME MANNER (W/CC) 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.

7. FINAL STREET RESTORATION SHALL BE COMPLETED WITHIN 180 CALENDAR DAYS AFTER COMPLETION OF THE TRENCH WORK WITHIN A STREET SEGMENT.

REVISION	BY	APPROVED	DATE
ORIGINAL		J.CASEY	01/89
UPDATED	KA	J. NAGELVOORT	01/12
UPDATED	BB	J. NAGELVOORT	01/14
UPDATED	BB	J. NAGELVOORT	03/15
REDRAFTED	CD	J. NAGELVOORT	09/18
UPDATED	FM	R. AMEN	09/23

CITY OF SAN DIEGO – STANDARD DRAWING

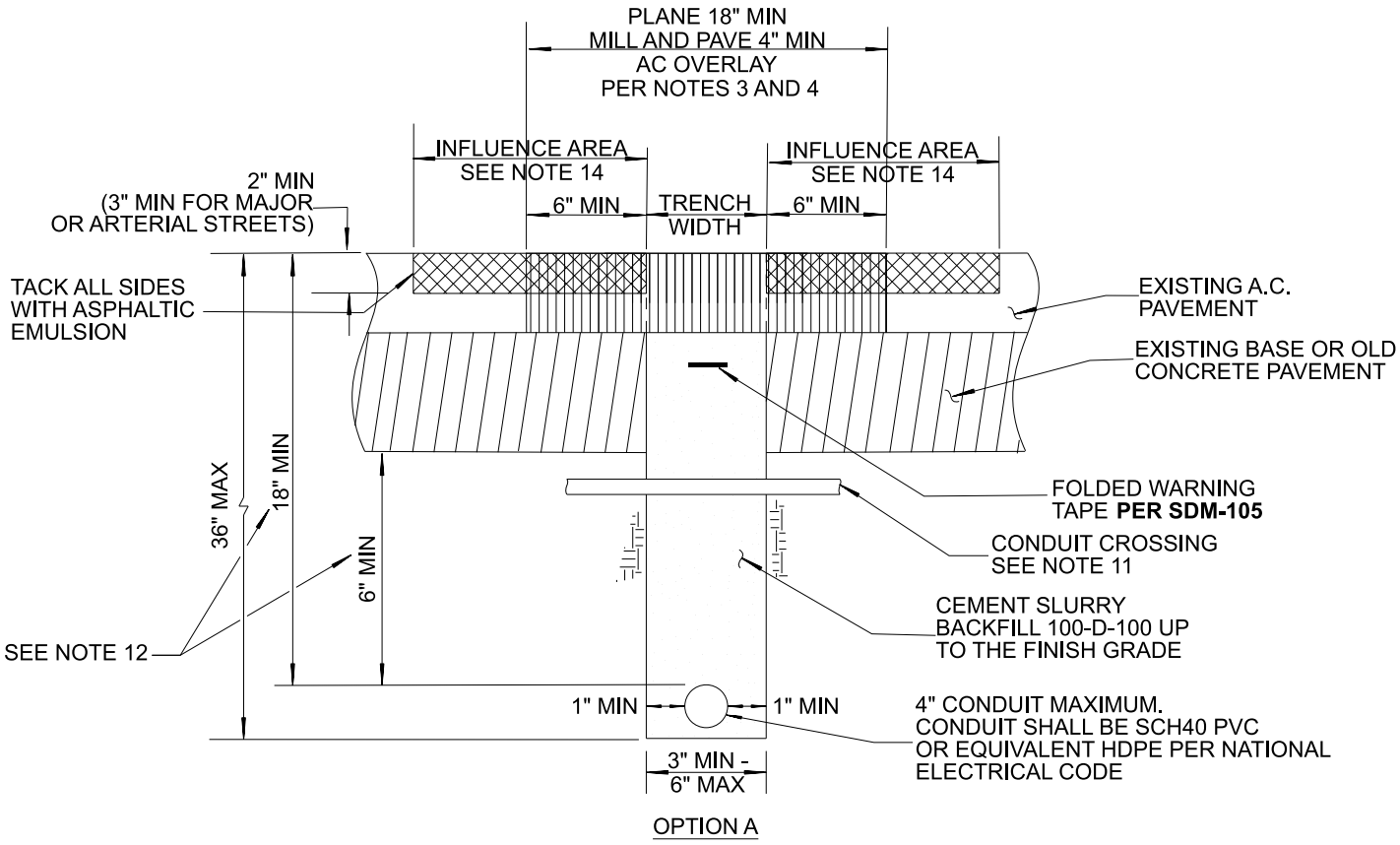
PAVEMENT RESTORATION FOR CONCRETE SURFACED STREETS AND ALLEYS - MAJOR EXCAVATION

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

DRAFT

COORDINATOR R.C.E. 81047 DATE

DRAWING NUMBER **SDG-108**



NOTES (OPTION A):

1. NEW TRENCH LOCATION SHALL BE 36 INCHES MINIMUM AND 72 INCHES MAXIMUM FROM LIP OF GUTTER, AND AT LEAST 36 INCHES CLEAR FROM ANY CITY UNDERGROUND FACILITIES.

   A. THE CONTRACTOR SHALL CONTACT THE ENGINEER TO INSPECT AND APPROVE THE TRAFFIC CONTROL PLAN PRIOR TO START OF EXCAVATION IN A BICYCLE LANE. ENSURE ADEQUATE PROVISIONS HAVE BEEN INCLUDED FOR BICYCLE TRAFFIC INCLUDING BICYCLE DETOURS, IF APPLICABLE.

   B. WHEN THE TRENCH AND/OR INFLUENCE AREA IS LOCATED WITHIN THE BICYCLE LANE, THE CONTRACTOR MUST PAVE THE FULL WIDTH OF THE BICYCLE LANE TO THE FACE OF CURB (I.E. GRIND AND OVERLAY) WITHIN SEVEN (7) CALENDAR DAYS OF AFTER THE INITIAL EXCAVATION. AT NO TIME SHALL A PARALLEL CUT OR SEAM EXIST IN THE BICYCLE LANE AS A FINAL RESTORATION.

   C. THE CONTRACTOR SHALL PERFORM TRENCHING IN THE BICYCLE LANE IN ROAD SEGMENTS NOT TO EXCEED 500 LINEAR FEET PER SEGMENT. THE CONTRACTOR SHALL FULLY COMPLETE THE WORK ON EACH SEGMENT PRIOR TO STARTING THE NEXT SEGMENT.

2. CEMENT SLURRY BACKFILL SHALL BE THOROUGHLY CONSOLIDATED, HAVE A MAXIMUM SLUMP OF 4 INCHES. FLY ASH MEETING THE REQUIREMENTS OF 201-1.2.5.3 MAY BE ADDED (NOT AS A SUBSTITUTE) TO THE MINIMUM CEMENT REQUIREMENTS. SLURRY COMBINED GRADING SHALL MEET REQUIREMENTS OF 201-1.3.2 (A) GRADING D.

3. BALL DROP TEST PER ASTM D6024 SHALL BE PERFORMED ON SLURRY AND ACHIEVE A MAXIMUM INDENTATION DIAMETER OF 3 INCHES PRIOR TO PLACEMENT OF ASPHALT CONCRETE. SLURRY PLACED IN NARROW TRENCHES WHERE BALL DROP TEST CANNOT BE PERFORMED SHALL BE CURED A MINIMUM OF 48 HOURS PRIOR TO PLACEMENT OF ASPHALT CONCRETE. PERMANENT RESURFACING SHALL BE COMPLETED IN NO MORE THAN 7 DAYS AFTER PLACEMENT OF CEMENT SLURRY.

SEE ADDITIONAL NOTES ON SHEET 2

REVISION	BY	APPROVED	DATE
ORIGINAL		BAHMANIAN	04/86
UPDATED	AA	J. NAGELVOORT	02/16
UPDATED	LS	M. GIBSON	05/17
REDRAFTED	CD	J. NAGELVOORT	09/18
UPDATED	LS	J. NAGELVOORT	04/21
UPDATED	RC	R. AMEN	10/23

CITY OF SAN DIEGO – STANDARD DRAWING

PAVEMENT RESTORATION FOR ASPHALT CONCRETE SURFACED STREETS - MINOR EXCAVATION OPTION A - ONE CONDUIT

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

DRAFT

COORDINATOR R.C.E. 81047 DATE

DRAWING NUMBER **SDG-117A**

NOTES (CONTINUED FOR OPTION A):

4. DURING PLACEMENT, CONCAVE SLURRY SURFACE WITH A SHOVEL TO 1/2 INCH - 1 INCH DEPTH.

5. MINIMUM SPECIFIED SEPARATIONS MUST BE MAINTAINED UNTIL SLURRY HAS FULLY CURED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THE CONDUIT DOES NOT SHIFT HORIZONTALLY OR FLOAT VERTICALLY IN THE TRENCH DURING THE APPLICATION OF THE SLURRY. SPOT POUR ONE SACK SLURRY OVER CONDUIT AT 25 FOOT INTERVALS TO PREVENT CONDUIT FROM FLOATING.

6. CUTS SHALL BE STRAIGHT. EXISTING A.C. PAVEMENT WILL NOT REQUIRE SAW CUTTING WHEN USING ROCKWHEEL FOR EXCAVATION PROVIDED THAT A SMOOTH SURFACE IS PRODUCED.

7. TRENCH SHALL BE MILLED TO A DEPTH OF 4 INCHES A MINIMUM OF 18 INCHES WIDE OR 12 INCHES WIDER THAN TRENCH WIDTH, WHICHEVER IS GREATER, AND RESURFACED WITH 1/2 INCH TYPE III CLASS C2 ASPHALT.

8. WHEN PCC TRENCH RESURFACING IS DIRECTED BY CITY ENGINEER, SHOWN ON THE PLANS, OR REQUIRED FOR A PCC SURFACED STREET, FOR ASPHALT STREETS SEE SDG-107 (NOTE #3) AND FOR CONCRETE SURFACED STREETS SEE SDG-108.

9. SDG-117A SHALL BE USED FOR THE PLACEMENT OF ONE CONDUIT. FOR THE PLACEMENT OF TWO CONDUITS USE SDG-117B AND FOR PLACEMENT OF THREE OR MORE CONDUITS USE SDG-117C OR SDG-119.

10. ALLOW THREE HOURS MINIMUM FOR ONE SACK SLURRY TRENCH BACKFILL CURE TIME FOR TRENCHES PARALLEL TO THE STREET BEFORE OPENING TO TRAFFIC.

11. SLEEVE EXISTING CONDUITS AT CROSSING.

12. TOP OF CONDUIT SHALL BE 18 INCHES MINIMUM FROM TOP OF PAVEMENT OR 6 INCHES MINIMUM FROM BOTTOM OF PAVEMENT SECTION, WHICHEVER IS GREATER.

13. CLEARANCE SEPARATIONS BETWEEN DRY AND WET UTILITIES PER CALIFORNIA PUBLIC UTILITY CODE GENERAL ORDER 128 SHALL BE MAINTAINED.

14. ASPHALT OVERLAY THE ENTIRE LENGTH OF THE TRENCH INCLUDING THE INFLUENCE AREA AROUND THE PERIMETER OF THE EXCAVATION PER TABLE 1 IN SDG-105.

    A. IF THE TRENCH OR EXCAVATION INFLUENCE AREA ENTERS A BICYCLE LANE, THE ENTIRE WIDTH OF THE BICYCLE SHALL BE ASPHALT OVERLAYED AND RESTRIPED FOR THE LENGTH OF THE TRENCH INCLUDING EXCAVATION INFLUENCE AREA. REPLACE IN KIND ANY EXISTING DELINEATORS.

REVISION	BY	APPROVED	DATE
ORIGINAL		BAHMANIAN	04/86
UPDATED	AA	J. NAGELVOORT	02/16
UPDATED	LS	M. GIBSON	05/17
REDRAFTED	CD	J. NAGELVOORT	09/18
UPDATED	LS	J. NAGELVOORT	04/21
UPDATED	RC	R. AMEN	10/23

CITY OF SAN DIEGO – STANDARD DRAWING

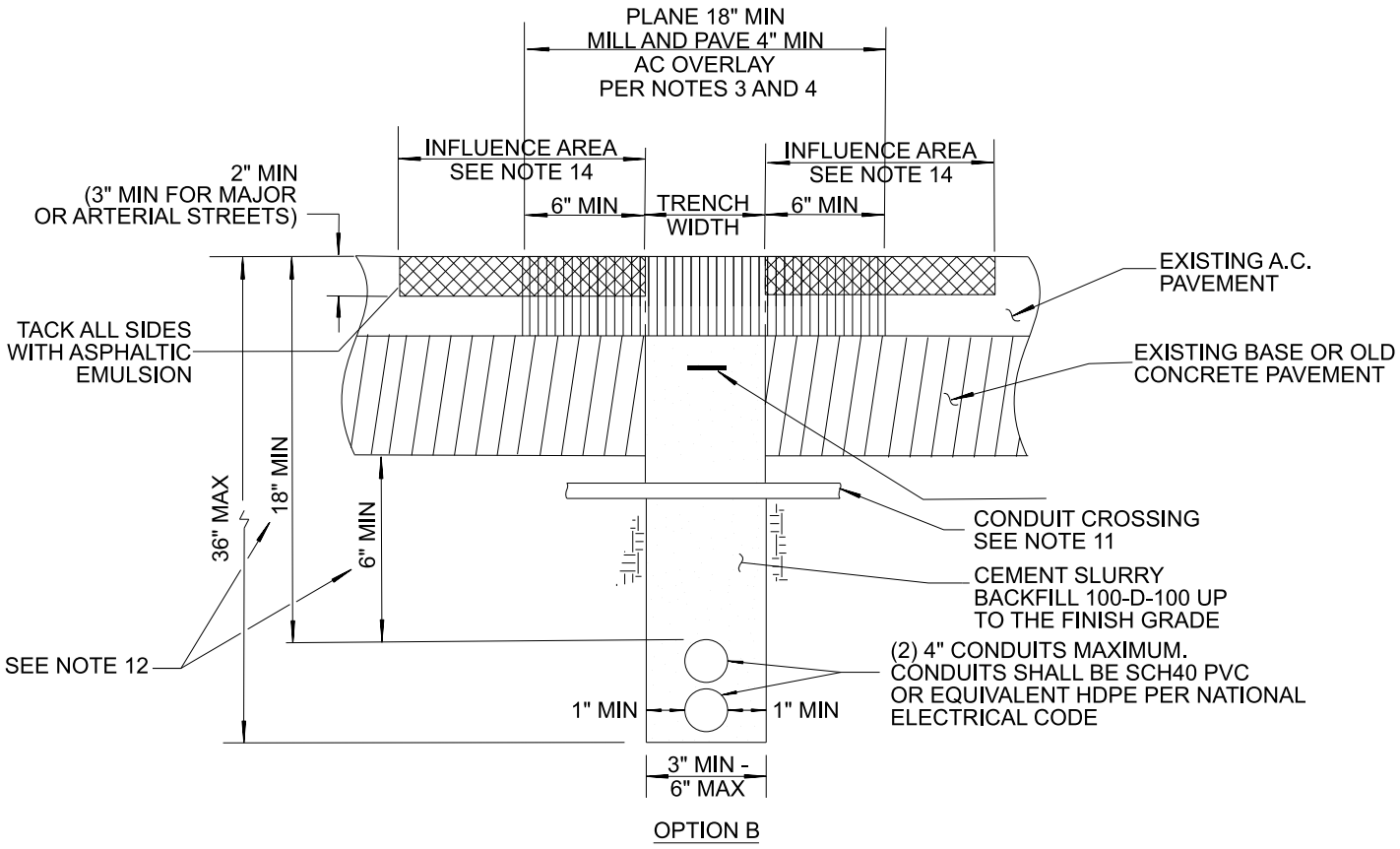
PAVEMENT RESTORATION FOR ASPHALT CONCRETE SURFACED STREETS - MINOR EXCAVATION OPTION A - ONE CONDUIT

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

DRAFT

COORDINATOR R.C.E. 81047 DATE

DRAWING NUMBER **SDG-117A**



OPTION B

NOTES (OPTION B):

1. NEW TRENCH LOCATION SHALL BE 36 INCHES MINIMUM AND 72 INCHES MAXIMUM FROM LIP OF GUTTER, AND AT LEAST 36 INCHES CLEAR FROM ANY CITY UNDERGROUND FACILITIES.

   A. THE CONTRACTOR SHALL CONTACT THE ENGINEER TO INSPECT AND APPROVE THE TRAFFIC CONTROL PLAN PRIOR TO START OF EXCAVATION IN A BICYCLE LANE. ENSURE ADEQUATE PROVISIONS HAVE BEEN INCLUDED FOR BICYCLE TRAFFIC INCLUDING BICYCLE DETOURS, IF APPLICABLE.

   B. WHEN THE TRENCH AND/OR INFLUENCE AREA IS LOCATED WITHIN THE BICYCLE LANE, THE CONTRACTOR MUST PAVE THE FULL WIDTH OF THE BICYCLE LANE TO THE FACE OF CURB (I.E. GRIND AND OVERLAY) WITHIN SEVEN (7) CALENDAR DAYS OF AFTER THE INITIAL EXCAVATION. AT NO TIME SHALL A PARALLEL CUT OR SEAM EXIST IN THE BICYCLE LANE AS A FINAL RESTORATION.

   C. THE CONTRACTOR SHALL PERFORM TRENCHING IN THE BICYCLE LANE IN ROAD SEGMENTS NOT TO EXCEED 500 LINEAR FEET PER SEGMENT. THE CONTRACTOR SHALL FULLY COMPLETE THE WORK ON EACH SEGMENT PRIOR TO STARTING THE NEXT SEGMENT.

2. CEMENT SLURRY BACKFILL SHALL BE THOROUGHLY CONSOLIDATED, HAVE A MAXIMUM SLUMP OF 4 INCHES. FLY ASH MEETING THE REQUIREMENTS OF 201-1.2.5.3 MAY BE ADDED (NOT AS A SUBSTITUTE) TO THE MINIMUM CEMENT REQUIREMENTS. SLURRY COMBINED GRADING SHALL MEET REQUIREMENTS OF 201-1.3.2 (A) GRADING D.

3. BALL DROP TEST PER ASTM D6024 SHALL BE PERFORMED ON SLURRY AND ACHIEVE A MAXIMUM INDENTATION DIAMETER OF 3 INCHES PRIOR TO PLACEMENT OF ASPHALT CONCRETE. SLURRY PLACED IN NARROW TRENCHES WHERE BALL DROP TEST CANNOT BE PERFORMED SHALL BE CURED A MINIMUM OF 48 HOURS PRIOR TO PLACEMENT OF ASPHALT CONCRETE. PERMANENT RESURFACING SHALL BE COMPLETED IN NO MORE THAN 7 DAYS AFTER PLACEMENT OF CEMENT SLURRY.

SEE ADDITIONAL NOTES ON SHEET 4

REVISION	BY	APPROVED	DATE
ORIGINAL		BAHMANIAN	04/86
UPDATED	AA	J. NAGELVOORT	02/16
UPDATED	LS	M. GIBSON	05/17
REDRAFTED	CD	J. NAGELVOORT	09/18
UPDATED	LS	J. NAGELVOORT	04/21
UPDATED	RC	R. AMEN	10/23

CITY OF SAN DIEGO – STANDARD DRAWING

PAVEMENT RESTORATION FOR ASPHALT CONCRETE SURFACED STREETS - MINOR EXCAVATION OPTION B - TWO CONDUITS

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

DRAFT

COORDINATOR R.C.E. 81047 DATE

DRAWING NUMBER **SDG-117B**

NOTES (CONTINUED FOR OPTION B):

4. DURING PLACEMENT, CONCAVE SLURRY SURFACE WITH A SHOVEL TO 1/2 INCH - 1 INCH DEPTH.

5. MINIMUM SPECIFIED SEPARATIONS MUST BE MAINTAINED UNTIL SLURRY HAS FULLY CURED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THE CONDUIT DOES NOT SHIFT HORIZONTALLY OR FLOAT VERTICALLY IN THE TRENCH DURING THE APPLICATION OF THE SLURRY. SPOT POUR ONE SACK SLURRY OVER CONDUIT AT 25 FOOT INTERVALS TO PREVENT CONDUIT FROM FLOATING.

6. CUTS SHALL BE STRAIGHT. EXISTING A.C. PAVEMENT WILL NOT REQUIRE SAW CUTTING WHEN USING ROCKWHEEL FOR EXCAVATION PROVIDED THAT A SMOOTH SURFACE IS PRODUCED.

7. TRENCH SHALL BE MILLED TO A DEPTH OF 4 INCHES AND A MINIMUM OF 18 INCHES WIDE OR 12 INCHES WIDER THAN TRENCH WIDTH, WHICHEVER IS GREATER, AND RESURFACED WITH 1/2 INCH TYPE III CLASS C2 ASPHALT.

8. WHEN PCC PAVEMENT RESTORATION IS DIRECTED BY CITY ENGINEER, SHOWN ON THE PLANS, OR REQUIRED FOR A PCC SURFACED STREET, FOR ASPHALT STREETS SEE SDG-107 (NOTE #3) AND FOR CONCRETE SURFACED STREETS SEE SDG-108.

9. SDG-117A SHALL BE USED FOR THE PLACEMENT OF ONE CONDUIT. FOR THE PLACEMENT OF TWO CONDUITS USE SDG-117B AND FOR PLACEMENT OF THREE OR MORE CONDUITS USE SDG-117C OR SDG-119.

10. ALLOW THREE HOURS MINIMUM FOR ONE SACK SLURRY TRENCH BACKFILL CURE TIME FOR TRENCHES PARALLEL TO THE STREET BEFORE OPENING TO TRAFFIC.

11. SLEEVE EXISTING CONDUITS AT CROSSING.

12. TOP OF CONDUIT SHALL BE 18 INCHES MINIMUM FROM TOP OF PAVEMENT OR 6 INCHES MINIMUM FROM BOTTOM OF PAVEMENT SECTION, WHICHEVER IS GREATER.

13. CLEARANCE SEPARATIONS BETWEEN DRY AND WET UTILITIES PER CALIFORNIA PUBLIC UTILITY CODE GENERAL ORDER 128 SHALL BE MAINTAINED.

14. ASPHALT OVERLAY THE ENTIRE LENGTH OF THE TRENCH INCLUDING THE INFLUENCE AREA AROUND THE PERIMETER OF THE EXCAVATION PER TABLE 1 IN SDG-105.

    A. IF THE TRENCH OR EXCAVATION INFLUENCE AREA ENTERS A BICYCLE LANE, THE ENTIRE WIDTH OF THE BICYCLE SHALL BE ASPHALT OVERLAYED AND RESTRIPED FOR THE LENGTH OF THE TRENCH INCLUDING EXCAVATION INFLUENCE AREA. REPLACE IN KIND ANY EXISTING DELINEATORS.

REVISION	BY	APPROVED	DATE
ORIGINAL		BAHMANIAN	04/86
UPDATED	AA	J. NAGELVOORT	02/16
UPDATED	LS	M. GIBSON	05/17
REDRAFTED	CD	J. NAGELVOORT	09/18
UPDATED	LS	J. NAGELVOORT	04/21
UPDATED	RC	R. AMEN	10/23

CITY OF SAN DIEGO – STANDARD DRAWING

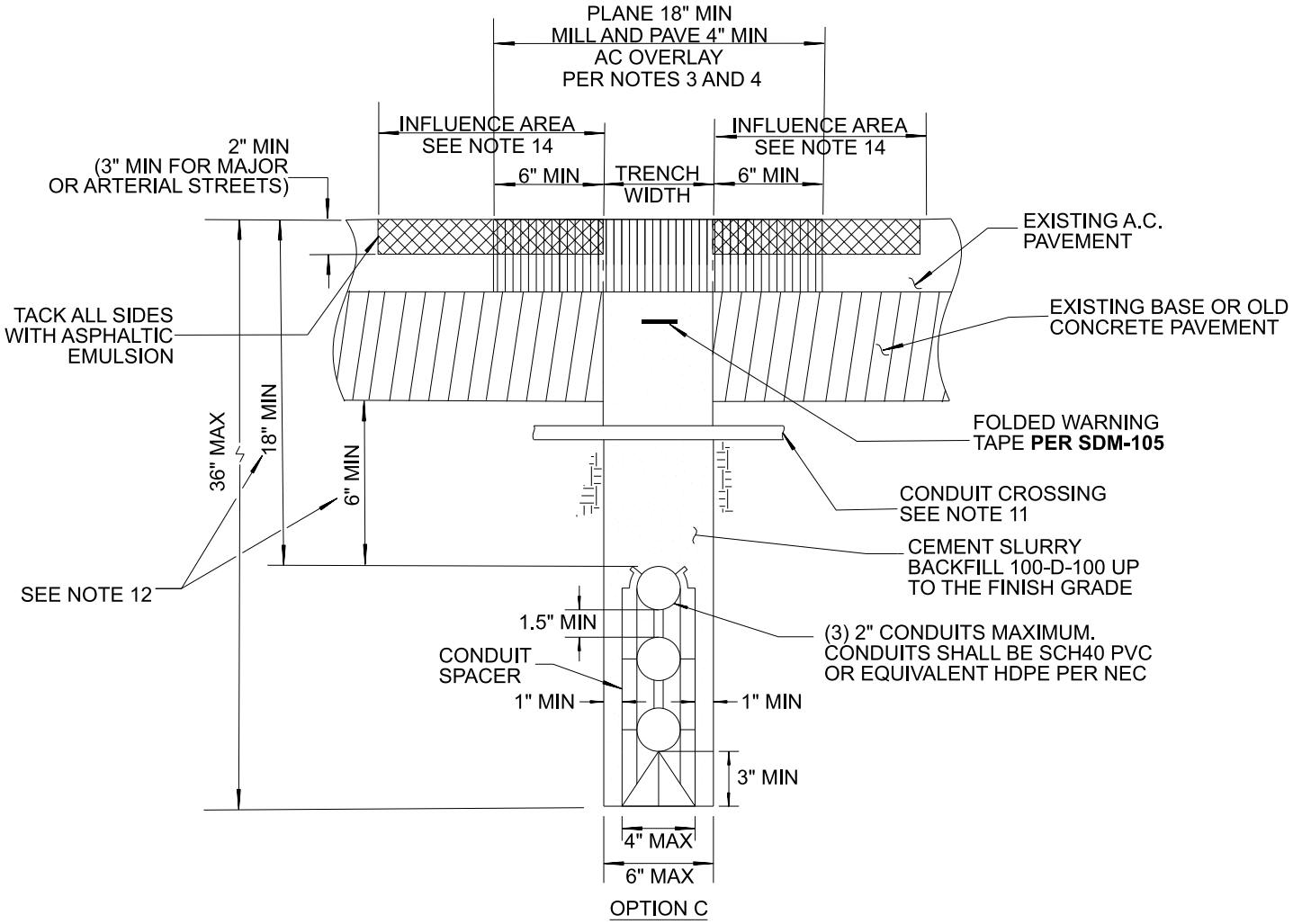
PAVEMENT RESTORATION FOR ASPHALT CONCRETE SURFACE STREETS - MINOR EXCAVATION OPTION B - TWO CONDUITS

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

DRAFT

COORDINATOR R.C.E. 81047 DATE

DRAWING NUMBER **SDG-117B**



NOTES (OPTION C):

1. NEW TRENCH LOCATION SHALL BE 36 INCHES MINIMUM AND 72 INCHES MAXIMUM FROM LIP OF GUTTER, AND AT LEAST 36 INCHES CLEAR FROM ANY CITY UNDERGROUND FACILITIES.

   A. THE CONTRACTOR SHALL CONTACT THE ENGINEER TO INSPECT AND APPROVE THE TRAFFIC CONTROL PLAN PRIOR TO START OF EXCAVATION IN A BICYCLE LANE. ENSURE ADEQUATE PROVISIONS HAVE BEEN INCLUDED FOR BICYCLE TRAFFIC INCLUDING BICYCLE DETOURS, IF APPLICABLE.

   B. WHEN THE TRENCH AND/OR INFLUENCE AREA IS LOCATED WITHIN THE BICYCLE LANE, THE CONTRACTOR MUST PAVE THE FULL WIDTH OF THE BICYCLE LANE TO THE FACE OF CURB (I.E. GRIND AND OVERLAY) WITHIN SEVEN (7) CALENDAR DAYS OF AFTER THE INITIAL EXCAVATION. AT NO TIME SHALL A PARALLEL CUT OR SEAM EXIST IN THE BICYCLE LANE AS A FINAL RESTORATION.

   D. THE CONTRACTOR SHALL PERFORM TRENCHING IN THE BICYCLE LANE IN ROAD SEGMENTS NOT TO EXCEED 500 LINEAR FEET PER SEGMENT. THE CONTRACTOR SHALL FULLY COMPLETE THE WORK ON EACH SEGMENT PRIOR TO STARTING THE NEXT SEGMENT.

2. CEMENT SLURRY BACKFILL SHALL BE THOROUGHLY CONSOLIDATED, HAVE A MAXIMUM SLUMP OF 4 INCHES. FLY ASH MEETING THE REQUIREMENTS OF 201-1.2.5.3 MAY BE ADDED (NOT AS A SUBSTITUTE) TO THE MINIMUM CEMENT REQUIREMENTS. SLURRY COMBINED GRADING SHALL MEET REQUIREMENTS OF 201-1.3.2 (A) GRADING D.

SEE ADDITIONAL NOTES ON SHEET 6

REVISION	BY	APPROVED	DATE
ORIGINAL		BAHMANIAN	04/86
UPDATED	AA	J. NAGELVOORT	02/16
UPDATED	LS	M. GIBSON	05/17
REDRAFTED	CD	J. NAGELVOORT	09/18
UPDATED	LS	J. NAGELVOORT	04/21
UPDATED	RC	R. AMEN	10/23

CITY OF SAN DIEGO – STANDARD DRAWING

PAVEMENT RESTORATION FOR ASPHALT CONCRETE SURFACED STREETS - MINOR EXCAVATION OPTION C - THREE CONDUITS

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

DRAFT

COORDINATOR R.C.E. 81047 DATE

DRAWING NUMBER **SDG-117C**

NOTES (CONTINUED FOR OPTION C):

3. BALL DROP TEST PER ASTM D6024 SHALL BE PERFORMED ON SLURRY AND ACHIEVE A MAXIMUM INDENTATION DIAMETER OF 3 INCHES PRIOR TO PLACEMENT OF ASPHALT CONCRETE. SLURRY PLACED IN NARROW TRENCHES WHERE BALL DROP TEST CANNOT BE PERFORMED SHALL BE CURED A MINIMUM OF 48 HOURS PRIOR TO PLACEMENT OF ASPHALT CONCRETE. PERMANENT RESURFACING SHALL BE COMPLETED IN NO MORE THAN 7 DAYS AFTER PLACEMENT OF CEMENT SLURRY.

4. DURING PLACEMENT, CONCAVE SLURRY SURFACE WITH A SHOVEL TO 1/2 INCH - 1 INCH DEPTH.

5. MINIMUM SPECIFIED SEPARATIONS MUST BE MAINTAINED UNTIL SLURRY HAS FULLY CURED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THE CONDUIT DOES NOT SHIFT HORIZONTALLY OR FLOAT VERTICALLY IN THE TRENCH DURING THE APPLICATION OF THE SLURRY. SPOT POUR ONE SACK SLURRY OVER CONDUIT AT 25 FOOT INTERVALS TO PREVENT CONDUIT FROM FLOATING.

6. CUTS SHALL BE STRAIGHT. EXISTING A.C. PAVEMENT WILL NOT REQUIRE SAW CUTTING WHEN USING ROCKWHEEL FOR EXCAVATION PROVIDED THAT A SMOOTH SURFACE IS PRODUCED.

7. TRENCH SHALL BE MILLED TO A DEPTH OF 4 INCHES AND A MINIMUM OF 18 INCHES WIDE OR 12 INCHES WIDER THAN TRENCH WIDTH, WHICHEVER IS GREATER, AND RESURFACED WITH 1/2 INCH TYPE III CLASS C2 ASPHALT.

8. WHEN PCC TRENCH RESURFACING IS DIRECTED BY CITY ENGINEER, SHOWN ON THE PLANS, OR REQUIRED FOR A PCC SURFACED STREET, FOR ASPHALT STREETS **SEE SDG-107** (NOTE #3) AND FOR CONCRETE SURFACED STREETS **SEE SDG-108**.

9. FOR PLACEMENT OF ADDITIONAL CONDUITS THAT EXCEED THE MAXIMUM ALLOWABLE TRENCH DIMENSIONS IN **SDG-117C** USE **SDG-119**.

10. ALLOW THREE HOURS MINIMUM FOR ONE SACK SLURRY TRENCH BACKFILL CURE TIME FOR TRENCHES PARALLEL TO THE STREET BEFORE OPENING TO TRAFFIC.

11. SLEEVE EXISTING CONDUITS AT CROSSING.

12. TOP OF CONDUIT SHALL BE 18" MINIMUM FROM TOP OF PAVEMENT OR 6" MINIMUM FROM BOTTOM OF PAVEMENT SECTION, WHICHEVER IS GREATER.

13. CONDUIT DUCT SPACERS SHALL BE USED TO MAINTAIN A 3 INCH MINIMUM SEPARATION FROM THE BOTTOM OF THE TRENCH AND 1 INCH SEPARATIONS FROM THE SIDES OF THE TRENCH TO INSURE SLURRY ENCAPSULATION OF THE CONDUIT PACKAGE.

14. SPACERS SHALL BE PLACED EVERY 6 FEET ON CENTER ALONG THE ALIGNMENT OF THE CONDUIT.

15. CLEARANCE SEPARATIONS BETWEEN DRY AND WET UTILITIES PER CALIFORNIA PUBLIC UTILITY CODE GENERAL ORDER 128 SHALL BE MAINTAINED.

16. ASPHALT OVERLAY THE ENTIRE LENGTH OF THE TRENCH INCLUDING THE INFLUENCE AREA AROUND THE PERIMETER OF THE EXCAVATION PER TABLE 1 IN SDG-105.

    A. IF THE TRENCH OR EXCAVATION INFLUENCE AREA ENTERS A BICYCLE LANE, THE ENTIRE WIDTH OF THE BICYCLE SHALL BE ASPHALT OVERLAYED AND RESTRIPED FOR THE LENGTH OF THE TRENCH INCLUDIN EXCAVATION INFLUENCE AREA. REPLACE IN KIND ANY EXISTING DELINEATORS.

REVISION	BY	APPROVED	DATE
ORIGINAL		BAHMANIAN	04/86
UPDATED	AA	J. NAGELVOORT	02/16
UPDATED	LS	M. GIBSON	05/17
REDRAFTED	CD	J. NAGELVOORT	09/18
UPDATED	LS	J. NAGELVOORT	04/21
UPDATED	RC	R. AMEN	10/23

CITY OF SAN DIEGO – STANDARD DRAWING

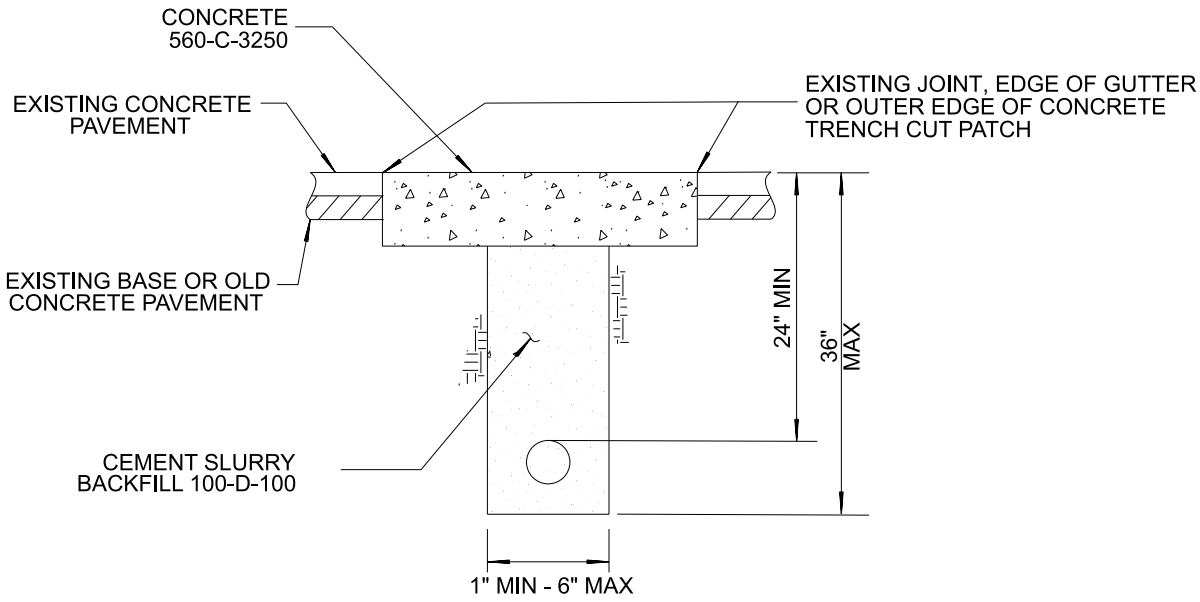
PAVEMENT RESTORATION FOR ASPHALT CONCRETE SURFACED STREETS - MINOR EXCAVATION OPTION C - THREE CONDUITS

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

DRAFT

COORDINATOR R.C.E. 81047 DATE

DRAWING NUMBER **SDG-117C**



NOTES:

1. CEMENT SLURRY BACKFILL SHALL BE THOROUGHLY CONSOLIDATED, HAVE A MAXIMUM SLUMP OF 4 INCHES, AND MAY CONTAIN 30% MAXIMUM 3/8" ROCK.

2. CONCRETE SHALL BE PLACED AND FINISHED IN ACCORDANCE WITH 306-6. CONCRETE MAY BE PLACED IMMEDIATELY FOLLOWING SLURRY BACKFILL

3. CONCRETE TRENCH COVER SHALL BE A MINIMUM OF 5 1/2" THICK IN ALLEY OR LOCAL RESIDENTIAL STREETS AND 7" THICK IN ALL OTHER STREETS. **SEE NOTE #5 IN SDG-108** FOR CONCRETE CLASS OPTIONS AND CURING REQUIREMENTS.

4. EXISTING CONCRETE PAVEMENT WILL REQUIRE SAW CUTTING.

5. FOR ELECTRICAL SUPPLY CABLES, SEE CALIFORNIA PUBLIC UTILITY COMMISSION GENERAL ORDER NO. 128, RULE 33.4 CLEARANCES AND DEPTHS.

6. FOR DRY UTILITIES (ELECTRICAL, COMMUNICATION, GAS, ETC.) **SEE SDG-119.**

7. CONCRETE PAVEMENT RESTORATION SHALL EXTEND BEYOND THE EDGE OF THE TRENCH CUT TO THE NEAREST JOINT (FULL WIDTH OF CONCRETE PANEL, JOINT TO JOINT AROUND THE PERIMETER OF THE EXCAVATION).

   A. FOR CONCRETE PAVEMENT WITH EXISTING TRENCH CUT PATCHES, CONCRETE PAVEMENT RESTORATION SHALL INCLUDE THE EXISTING TRENCH CUT PATCHES, IF THOSE PATCHES ARE WITHIN 4'-0" OF THE PROPOSED CONCRETE PANEL.

   B. IF THE TRENCH CUT IS IN ALLEY APRON, CONCRETE RESTORATION SHALL BE TO THE NEAREST JOINT OR REPLACE ENTIRE ALLEY APRON IF NO JOINT. FOR NON-STANDARD ALLEY, INSTALL NEW CONCRETE PAVEMENT AS NEW JOINT CAN BE INSTALLED TO THE EXTEND OF THE RIGHT-OF-WAY.

8. FINAL STREET RESTORATION SHALL BE COMPLETED WITHIN 180 CALENDAR DAYS AFTER COMPLETION OF TRENCH WORK WITHIN A STREET SEGMENT.

REVISION	BY	APPROVED	DATE
ORIGINAL		BAHMANIAN	04/86
UPDATED	KA	J. NAGELVOORT	08/13
UPDATED	AB	J. NAGELVOORT	02/16
REDRAFTED	CD	J. NAGELVOORT	09/18
UPDATED	HE	R. AMEN	10/23

CITY OF SAN DIEGO – STANDARD DRAWING

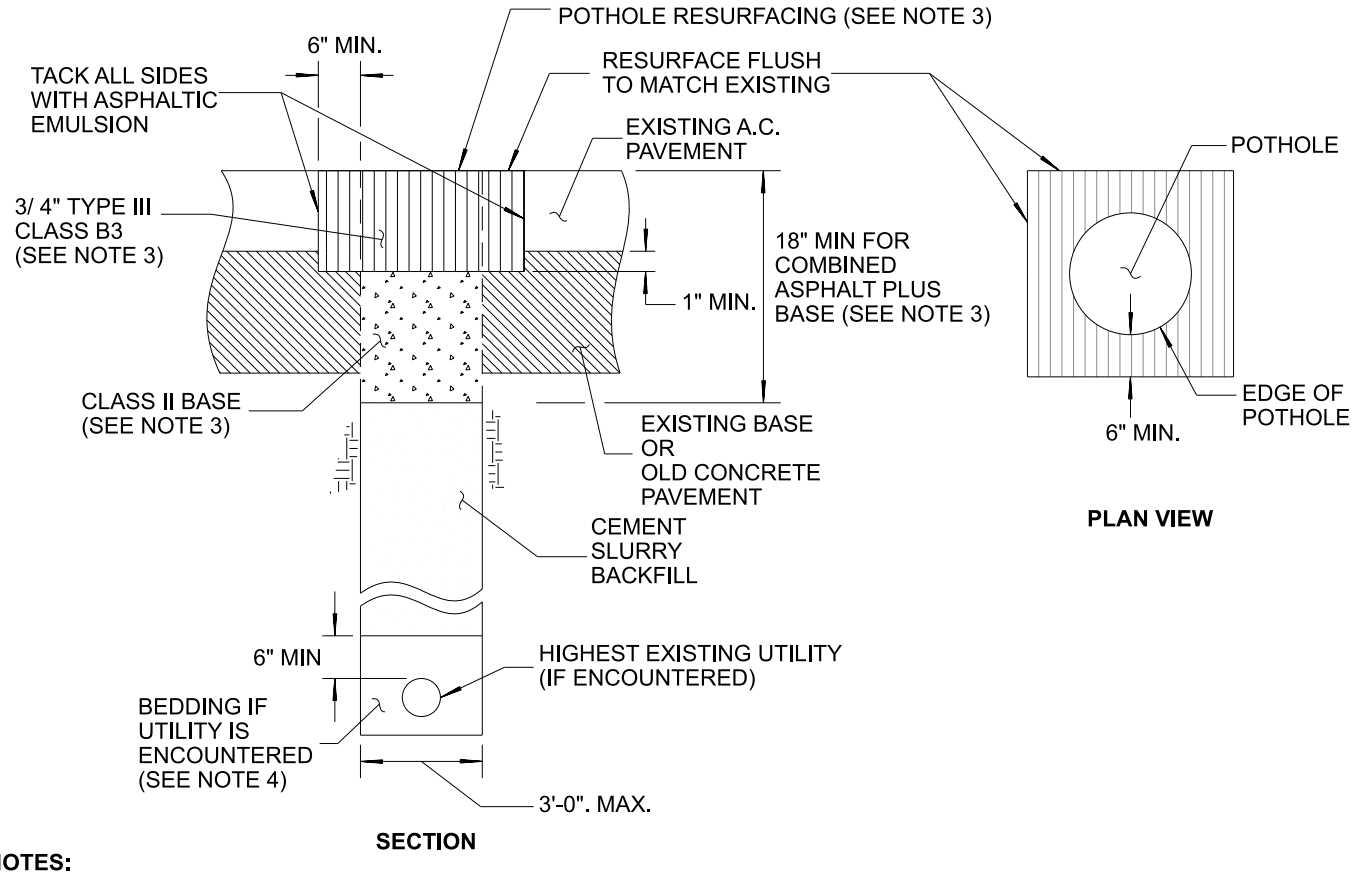
PAVEMENT RESTORATION FOR CONCRETE SURFACED STREETS AND ALLEYS - MINOR EXCAVATION

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

DRAFT

COORDINATOR R.C.E. 81047 DATE

DRAWING NUMBER **SDG-118**



NOTES:

1. CEMENT SLURRY BACKFILL SHALL BE THOROUGHLY CONSOLIDATED, AND HAVE A MAXIMUM SLUMP OF 4 INCHES. FLY ASH MEETING THE REQUIREMENTS OF 201-1.2.5.3 MAY BE ADDED (NOT AS A SUBSTITUTE) TO THE MINIMUM CEMENT REQUIREMENTS. SLURRY COMBINED GRADING SHALL MEET REQUIREMENTS OF 201-1.3.2 GRADING D. CEMENT SLURRY BACKFILL SHALL BE 100-D-100.

2. SLURRY SHALL BE CURED A MINIMUM OF 48 HOURS PRIOR TO PLACEMENT OF CLASS II BASE AND ASPHALT CONCRETE. RESURFACING SHALL BE COMPLETED IN NO MORE THAN 7 DAYS AFTER PLACEMENT OF CEMENT SLURRY.

3. ALL ASPHALT STREET RESURFACING SHALL EXTEND A MINIMUM OF 6 INCHES BEYOND EDGE OF POTHOLE OR EXPLORATORY EXCAVATION, AS SHOWN. ASPHALT THICKNESS TO EQUAL EXISTING AC PAVEMENT PLUS 1 INCH (4 INCHES MINIMUM TO 9 INCHES MAXIMUM). COMBINED ASPHALT PLUS BASE SHALL BE 18 INCHES MINIMUM.

4. IF UTILITY IS ENCOUNTERED, AS LISTED BELOW, PLACE BEDDING A MINIMUM OF 6 INCHES ABOVE UTILITY.
   A. WATER UTILITY: SE 50 SAND
   B. SEWER UTILITY: 3/ 8" MAXIMUM AGGREGATE
   C. DRY UTILITY: SE 50 SAND

5. FOR PCC SURFACED STREETS, **SEE SDG-108** FOR RESURFACING. FOR POTHOLE AND EXPLORATORY EXCAVATION LARGER THAN 3'-0" ON ASPHALT CONCRETE SURFACED STREETS, SEE SDG-107 FOR RESURFACING.

6. POTHOLE OR EXPLORATORY EXCAVATION IN BIKE LANES SHALL BE APPROVED BY THE CITY. IF APPROVED, THE ENTIRE WIDTH OF THE BIKE LANE SHALL BE RESURFACED, AT A MINIMUM LENGTH OF 6 FEET.

7. TEMPORARY RESURFACING IS ALLOWED IF CONSTRUCTION WILL BE PERFORMED WITHIN 60 DAYS AFTER POTHOLING WORK, IF POTHOLE OR EXPLORATORY EXCAVATION IS WITHIN THE NEW TRENCH LIMITS, AND **IF APPROVED BY THE CITY**. MATERIAL FOR TEMPORARY RESURFACING **SHALL BE APPROVED BY THE CITY**. SEE NOTE 3 FOR LIMITS AND DEPTH.

8. PAVEMENT CORES SHALL NOT BE GREATER THAN 3'-0" IN DIAMETER, AND SHALL NOT BE SPACED CLOSER THAN 3 FEET BETWEEN CORES, EDGE TO EDGE.

9. SEE SHEET 2 FOR TYPE B - KEYHOLE METHOD.

REVISION	BY	APPROVED	DATE
ORIGINAL	CD	J. NAGELVOORT	11/17
UPDATED	CD	J. NAGELVOORT	09/18
UPDATED	FM	R. AMEN	09/23

CITY OF SAN DIEGO – STANDARD DRAWING

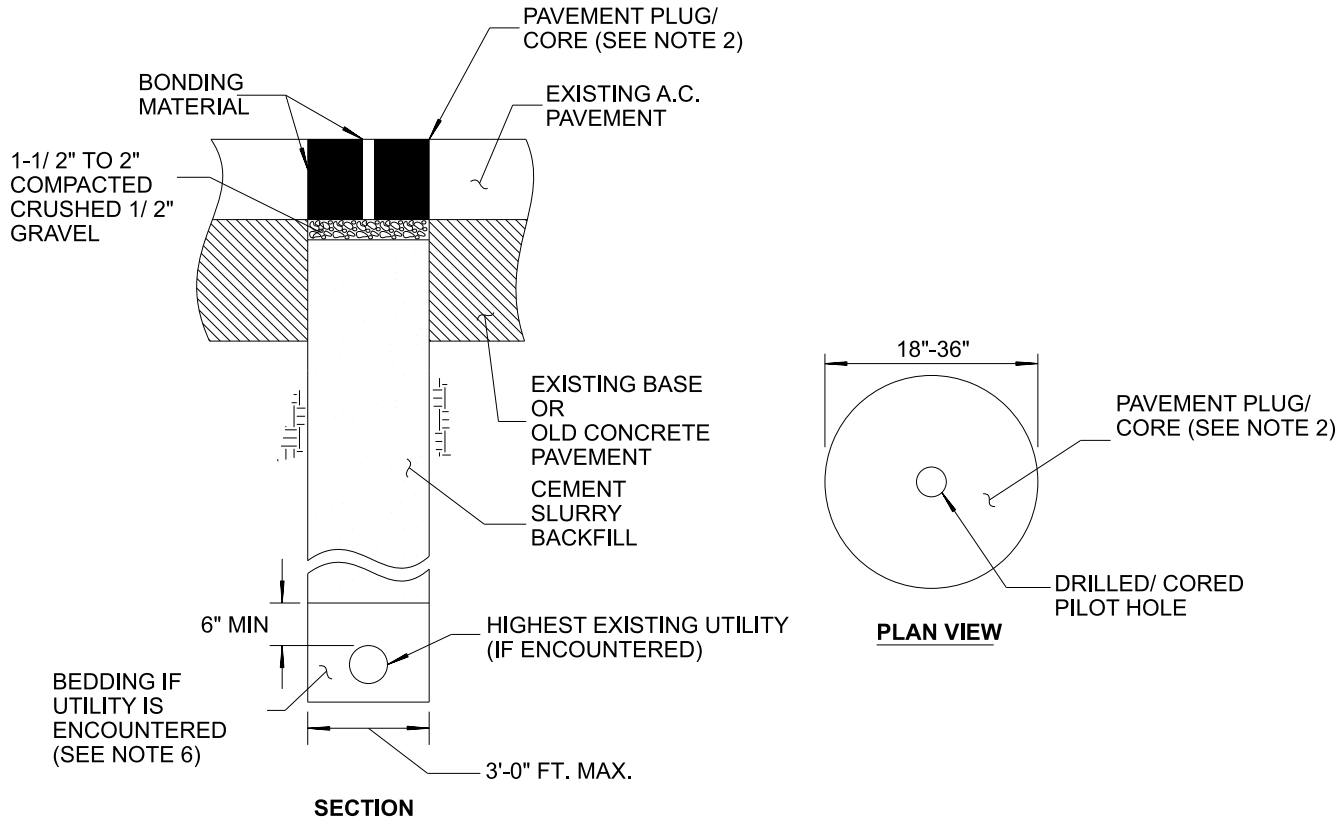
36" AND SMALLER POTHOLE AND EXPLORATORY EXCAVATION - TYPE A PAVEMENT REPAIR

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

DRAFT

COORDINATOR R.C.E. 81047 DATE

DRAWING NUMBER **SDG-123**



NOTES:

1. PAVEMENT CORE TO BE REINSTATED SHALL BE A MINIMUM OF 4 INCHES THICK AND SHALL NOT CONTAIN JOINTS OR CRACKS WHICH MAY CAUSE IT TO BREAK AND SPALL. OTHERWISE, TYPE "A" PER SHEET 1 SHALL BE USED **AS DIRECTED BY CITY ENGINEER.**

2. CUT, REMOVE, AND REINSTATE PAVEMENT CORE, FLUSH WITH EXISTING PAVEMENT. THE REMOVED PAVEMENT CORE/ PLUG WITH ASPHALT AND CONCRETE BASE SHALL BE UTILIZED AND REINSTALLED IN GOOD CONDITION.

3. BONDING MATERIAL SHALL BE AS SPECIFIED **PER CITY APPROVED MATERIALS LIST**.

4. CEMENT SLURRY BACKFILL SHALL BE THOROUGHLY CONSOLIDATED, AND HAVE A MAXIMUM SLUMP OF 4 INCHES. FLY ASH MEETING THE REQUIREMENTS OF 201-1.2.5.3 MAY BE ADDED (NOT AS A SUBSTITUTE) TO THE MINIMUM CEMENT REQUIREMENTS. SLURRY COMBINED GRADING SHALL MEET REQUIREMENTS OF 201-1.3.2 GRADING D. CEMENT SLURRY BACKFILL SHALL BE 100-D-100.

5. SLURRY SHALL BE CURED A MINIMUM OF 48 HOURS PRIOR TO PLACEMENT OF CLASS II BASE AND ASPHALT CONCRETE. RESURFACING SHALL BE COMPLETED IN NO MORE THAN 7 DAYS AFTER PLACEMENT OF CEMENT SLURRY.

6. IF UTILITY IS ENCOUNTERED, AS LISTED BELOW, PLACE BEDDING A MINIMUM OF 6 INCHES ABOVE UTILITY.
   A. WATER UTILITY: SE 50 SAND
   B. SEWER UTILITY: 3/ 8" MAXIMUM AGGREGATE
   C. DRY UTILITY: SE 50 SAND

7. FOR CONCRETE SURFACED STREETS, **SEE SDG-108** FOR RESURFACING. FOR POTHOLE AND EXPLORATORY EXCAVATION LARGER THAN 3'-0" ON ASPHALT CONCRETE SURFACED STREETS, SEE SDG-107 FOR RESURFACING.

8. POTHOLE OR EXPLORATORY EXCAVATION IN BIKE LANES **SHALL BE APPROVED BY THE CITY**.

9. PAVEMENT CORES SHALL NOT BE GREATER THAN 3'-0" INCHES IN DIAMETER, AND SHALL NOT BE SPACED CLOSER THAN 3 FEET BETWEEN CORES, EDGE TO EDGE.

REVISION	BY	APPROVED	DATE
ORIGINAL	CD	J. NAGELVOORT	11/17
UPDATED	CD	J. NAGELVOORT	09/18
UPDATED	FM	R. AMEN	09/23

CITY OF SAN DIEGO – STANDARD DRAWING

36" AND SMALLER EXPLORATORY EXCAVATION POTHOLE - TYPE B KEYHOLE METHOD

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

DRAFT

COORDINATOR R.C.E. 81047 DATE

DRAWING NUMBER **SDG-123**

NOTES:

1. CLEARENCE SEPARATIONS BETWEEN DRY AND WET UTILITIES SHALL BE MAINTAINED PER WATER, SEWER, AND DRAINAGE DESIGN GUIDELINES, VARIANCES WILL REQUIRE DEVIATION FROM STANDARDS.

2. **PERMITTING REQUIREMENTS:** ALL MICROTRENCH PERMITS REQUIRE A DEVELOPMENT SERVICES DEPARTMENT DIGITAL SUBMISSION WITH A GEOSPATIAL ALIGNMENT PER DEVELOPMENT SERVICES DEPARTMENT FORMAT REQUIREMENTS.

3. **CONDUIT ANCHORING**: CONTRACTOR MUST PROVIDE THEIR METHOD OF WEIGHING / ANCHORING DOWN CONDUITS IN THEIR PERMIT. TO PREVENT CONDUITS FROM FLOATING, AND TO MAINTAIN REQUIRED DEPTH FOR TOP OF CONDUIT.

4. **MICROTRENCHING USAGE:** MICROTRENCHING PER SDG-165A AND / OR SDG-165B SHALL BE ON ASPHALT STREETS ONLY. MICROTRENCHING SHALL NOT BE PERMITTED IN OR THROUGH EXISTING CONCRETE PAVED STREETS, PARKWAYS, CURB, GUTTER, CROSS GUTTER, BUS PAD, SIDEWALK, FLOATING CURB EXTENSION, BUS BULB, TRUCK PILLOW, RAISED CROSSWALK, ISLAND, MINI- ROUNDABOUT, OR SIMILAR ELEMENTS. MICROTRENCHING MAY BE PERMITTED, AT THE CITY'S DISCRETION, IN OR THROUGH EXISTING IMPROVEMENTS AND SPECIAL PAVEMENTS (SUCH AS DECORATIVE ASPHALT PAVING, AND PERPENDICULAR TO SPEED BUMPS). EXISTING IMPROVEMENTS AND SPECIAL PAVEMENTS SHALL BE RESTORED IN KIND AS APPROVED BY THE CITY.

5. **DAMAGE TO EXISTING IMPROVEMENTS:** CONNECTION TO SERVICE LATERALS, JUNCTION BOXES, ETC. SHALL BE DONE SUCH THAT EXISTING IMPROVEMENTS ARE NOT DISTURBED, SETTLED, OR DAMAGED. ANY DAMAGE TO EXISTING IMPROVEMENTS BY PARALLEL OR PERPENDICULAR MICROTRENCHING ACTIVITIES SHALL BE RESTORED IN KIND AS APPROVED BY THE CITY. DAMAGE TO CONCRETE CURB, GUTTER, SIDEWALK, AND PAVEMENT SHALL BE REMOVED AND RESTORED IN ACCORDANCE WITH **SDG-156.**

6. **TRENCH CUTS:** CONTRACTOR SHALL MAKE ALL REASONABLE EFFORTS TO ACHIEVE STRAIGHT AND UNIFORM CUTS WITH NEAT EDGES. SELECTION OF CUTTING WHEEL SHALL BE SUCH THAT IT MINIMIZES DAMAGE TO THE ADJACENT AC SURFACE. RADII TRENCH CUTS SHALL HAVE NO MORE THAN 3 CUTS.

7. **MICROTRENCH WIDTH:** MICROTRENCH WIDTH SHALL BE A MINIMUM OF 1 INCH AND A MAXIMUM OF 2 ½INCHES. TRENCHES WITH WIDTH GREATER THAN 2 ½INCHES MUST FOLLOW **SDG-117** (NARROW TRENCH RESURFACING FOR ASPHALT CONCRETE SURFACE STREETS), WHICH REQUIRES A DIFFERENT BACKFILL MATERIAL. THE CITY MAY CHANGETHE PERMIT TO **SDG-117** BY AN AS-BUILT CHANGE IF THE TRENCH EXCEEDS 2 ½ INCHES IN CONSTRUCTION.

8. **MICROTRENCH ALIGNMENT OFFSET TO AN ADJACENT MICROTRENCH:** NO MICROTRENCHING SHALL BE LESS THAN 2 FEET FROM ADJACENT MICROTRENCHES (EDGE TO EDGE). THIS MAY REQUIRE THE CONTRACTOR TO POTHOLE TO VERIFY PARALLEL UTILITIES SIZE AND TRENCH WIDTH TO ENSURE PROPER SEPARATION.

9. **CONDUIT PLACEMENT IN TRENCH:** THE TOP OF HIGHEST CONDUIT SHALL BE 12 INCHES MINIMUM FROM TOP OF PAVEMENT OR 4 INCHES FROM BOTTOM OF PAVEMENT SECTION TO INCLUDE ASPHALT, BASE AND CTB, WHICHEVER IS GREATER.

10. **CONDUIT SIZE:** 2 INCH MAXIMUM CONDUIT SIZE SCH 40 PVC OR EQUIVALENT HDPE PER NATIONAL ELECTRICAL CODE.

11. **TRENCH IDENTIFICATION:** INSTALL FOLDED WARNING / IDENTIFICATION TAPE WARNING TAPE **PER SDM-105.** EACH TRENCH SHALL BE IDENTIFIED WITH A CALLOUT ON THE PULLBOX / VAULT / JUNCTION BOX LID WITH THE NAME OF THE OWNER OF THE MICROTRENCH.

12. **MICROTRENCH BACKFILL AND REQUIREMENTS TO OPEN THE STREET TO TRAFFIC:** ALL MICROTRENCHES SHALLBECOMPLETELY BACKFILLED WITH A CEMENT SAND SLURRY 2000 PSI MINIMUM AND 2% CALCIUM CHLORIDE TO FINISH GRADE. THIS IS AN INTERIM CONDITION AND CONTRACTOR SHALL FOLLOW CURING TIME REQUIREMENTS (PER NOTE 14) TO OPEN THE STREET TO TRAFFIC PRIOR TO COMPLETING PAVING REQUIREMENTS FOR FINAL RESTORATION.

13. **SLURRY VOID REDUCTION:** CONTRACTOR SHALL USE A VIBRATOR TO ENSURE SLURRY FILL WITHOUT VOIDS.

14. **SLURRY CURE TIME:** ALLOW A MINIMUM OF THREE HOURS FOR SLURRY TRENCH BACKFILL CURE TIME FOR TRENCHES PARALLEL TO THE STREET BEFORE OPENING TO TRAFFIC.

SEE ADDITIONAL NOTES ON SHEET 2

REVISION	BY	APPROVED	DATE
ORIGINAL	HY	M. GIBSON	05/17
REDRAFTED	CD	J. NAGELVOORT	09/18
UPDATED	RC	R. AMEN	10/22
UPDATED	FM	R. AMEN	09/23

CITY OF SAN DIEGO – STANDARD DRAWING

GENERAL MICROTRENCH NOTES

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

DRAFT

COORDINATOR R.C.E. 81047 DATE

DRAWING NUMBER **SDG-165**

NOTES (CONTINUED):

15. **FINAL MICROTRENCH RESTORATION:** WITHIN 7 DAYS OF PLACING THE SLURRY BACKFILL TO GRADE, MILL THE SLURRY BACKFILL AND EXISTING PAVEMENT A MINIMUM WIDTH OF 18 INCHES INCLUDING THE EXCAVATION INFLUENCE AREA PER TABLE 1 IN SDG-105 TO A DEPTH OF 4 INCHES AND RESURFACE WITH 1/2 INCH TYPE III CLASS C2 ASPHALT. TACK ALL EDGES OF THE MILLED AREA WITH ASPHALTIC EMULSION.

16. **FINAL MICROTRENCH RESTORATION WHEN ADJACENT TO ANOTHER MICROTRENCH:** WHEN RESTORING A MICROTRENCH SEPARATED BY 2 FEET (EDGE TO EDGE) FROM ANY ADJACENT MICROTRENCH THE MICROTRENCH RESTORATION SHALL FOLLOW NOTE 15 FOR TRENCH RESTORATION AND **SDG-107** FOR FULL LIMITS OF THE PERMITTED ALIGNMENT TO MAINTAIN INFLUENCE AREA INTEGRITY.

17. **MICROTRENCHING IN BIKE LANES:** FOR THE WORK IN THE BIKE LANE, CONTRACTOR SHALL PROVIDE A POTHOLING PLAN FOR REVIEW WITH THE ENGINEER FOLLOWING PRE-CONSTRUCTION MEETING. THE BIKE LANE SHALL BE FULLY CLOSED AND APPROPRIATE TRAFFIC CONTROL PLAN AND SIGNAGE USED. MICROTRENCHING IN THE BIKE LANE REQUIRES THAT SLURRY BACKFILL BE COMPLETED BEFORE END OF APPROVED WORKDAY WITH CURING TIME PER NOTE 14. RESTORATION TO THE TRENCH SHALL BE PER NOTE 15.

18. **FINAL MICROTRENCH RESTORATION IN BIKE LANES:** THE CONTRACTOR SHALL RESTORE FULL WIDTH OF BIKE LANE TO THE FACE OF CURB AND PLACE 2 INCHES MIN OR 3 INCHES MIN (MAJOR OR ARTERIAL STREETS) THICKNESS OF ASPHALT PER **SDG-107**.

REVISION	BY	APPROVED	DATE
ORIGINAL	HY	M. GIBSON	05/17
REDRAFTED	CD	J. NAGELVOORT	09/18
UPDATED	RC	R. AMEN	10/22
UPDATED	FM	R. AMEN	09/23

CITY OF SAN DIEGO – STANDARD DRAWING

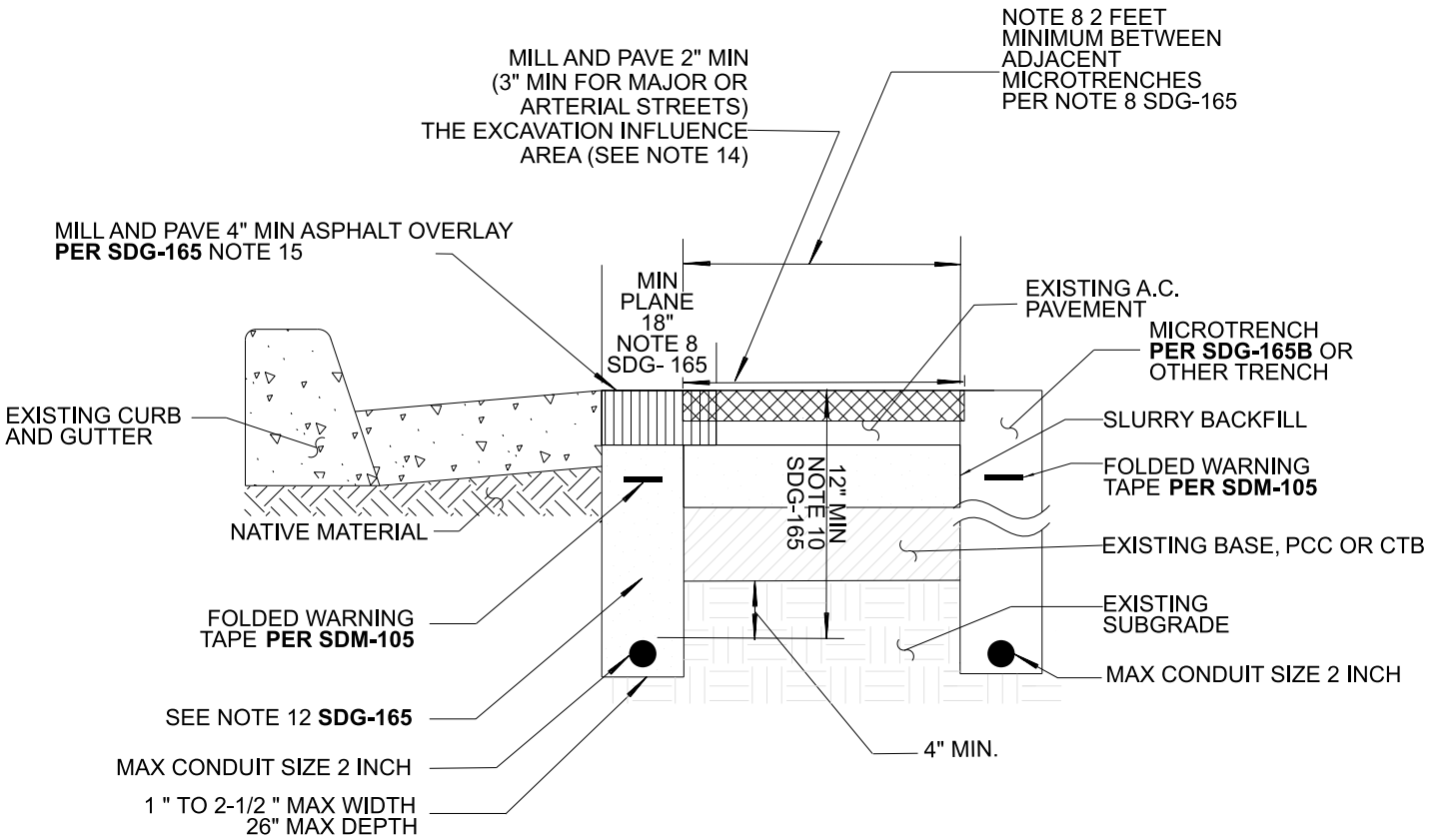
GENERAL MICROTRENCH NOTES

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

DRAFT

COORDINATOR R.C.E. 81047 DATE

DRAWING NUMBER **SDG-165**



LEGEND ON PLANS:

——MTC—— MICROTRENCH CONDUIT (MTC)

NOTES:

1. APPLICABLE WHERE CONCRETE GUTTER IS VISIBLE OR EXPOSED.
2. SHALL NOT BE APPLICABLE AT STREET INTERSECTIONS OR ALONG MEDIAN CURBS.
3. TRENCH LOCATION SHALL BE AT THE EDGE OF CURB.

SHEET 3 OF 4

REVISION	BY	APPROVED	DATE
ORIGINAL	HY	M. GIBSON	05/17
REDRAFTED	CD	J. NAGELVOORT	09/18
UPDATED	ED	R. AMEN	10/22
UPDATED	FM	R. AMEN	09/23

CITY OF SAN DIEGO – STANDARD DRAWING

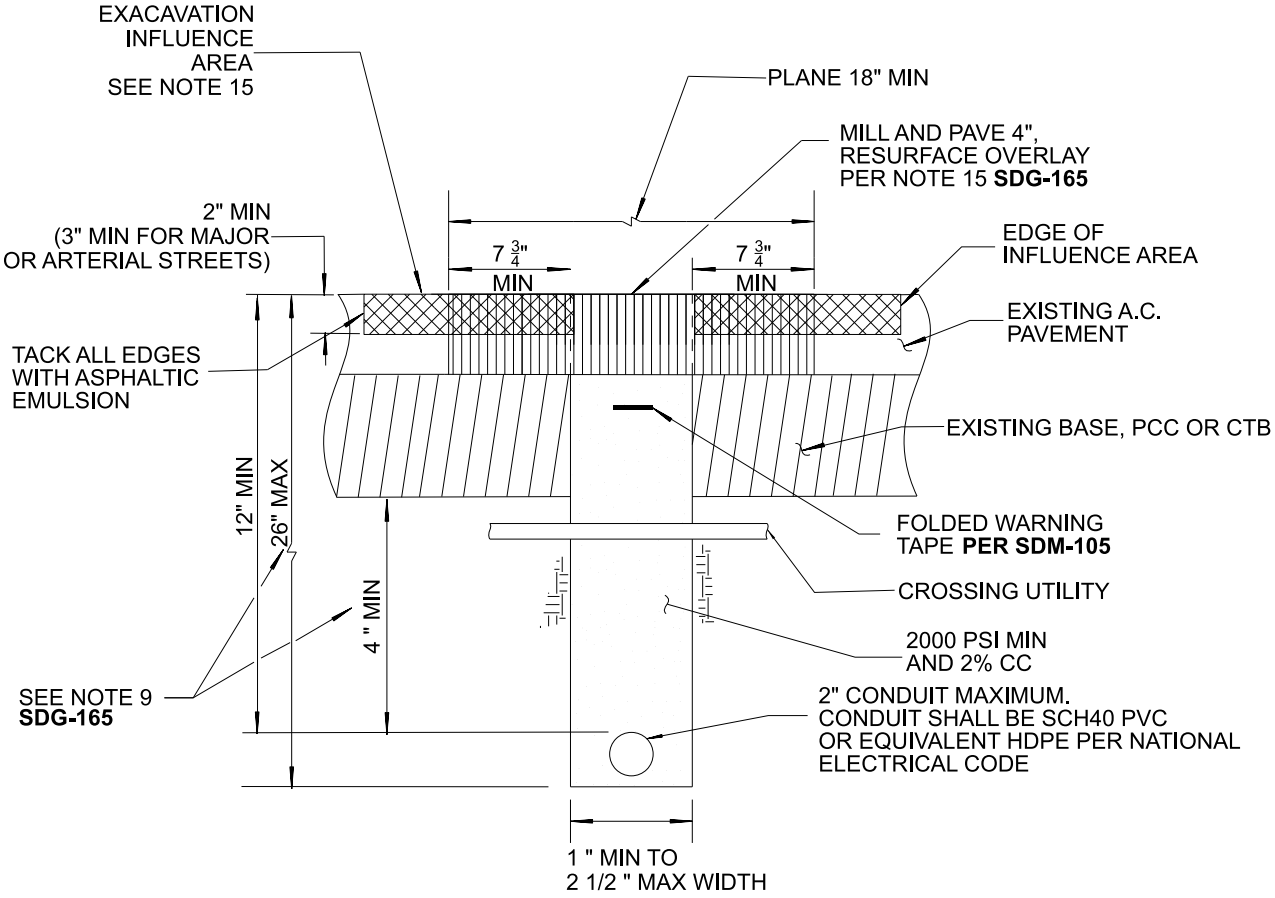
MICROTRENCH FOR DRY UTILITIES AT EDGE OF CURB AND GUTTER

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

DRAFT

COORDINATOR R.C.E. 81047 DATE

DRAWING NUMBER **SDG-165A**



NOTES:

1. SHALL APPLY TO ALL MICROTRENCHING AT STREET INTERSECTIONS.
2. TRENCH LOCATION SHALL BE AT LEAST 9 INCHES FROM LIP OF GUTTER.
3. TRENCH SHALL BE AT LEAST 12 INCHES FROM ANY EXISTING CONCRETE STRUCTURE.

SHEET 4 OF 4

REVISION	BY	APPROVED	DATE
ORIGINAL	HY	M. GIBSON	05/17
REDRAFTED	CD	J. NAGELVOORT	09/18
UPDATED	RC	R. AMEN	10/22
UPDATED	FM	R. AMEN	09/23

CITY OF SAN DIEGO – STANDARD DRAWING

MICROTRENCH FOR DRY UTILITIES AWAY FROM EDGE OF CURB AND GUTTER

RECOMMENDED BY THE CITY OF SAN DIEGO STANDARDS COMMITTEE

DRAFT

COORDINATOR R.C.E. 81047 DATE

DRAWING NUMBER **SDG-165B**

ATTACHMENT F

IN-USE OFF-ROAD DIESEL FUELED FLEET REGULATION (OFF-ROAD REGULATION) COMPLIANCE (CARB)

ATTACHMENT F

IN-USE OFF-ROAD DIESEL FUELED FLEET REGULATION (OFF-ROAD REGULATION) COMPLIANCE

The California Air Resources Board (CARB) approved amendments to the Off-Road Regulations which can be found at 13 California Code of Regulations (CCR) sections 2449, 2449.1, and 2449.2. These amendments apply to any person, business, or government agency who owns or operates within California any vehicles with a diesel-fueled or alternative diesel fueled off-road compression-ignition engine with maximum power (max hp) of 25 horsepower (hp) or greater provided that the vehicle cannot be registered and driven safely on-road or was not designed to be driven on-road, even if it has been modified so that it can be driven safely on-road. See 13 CCR section 2449 (b) for the full list of vehicles covered by these Off-Road Regulations.

Beginning **January 1, 2024**, Contractor shall be subject to the requirements below. No Contractor or public works awarding body, as applicable, shall enter into a contract with a fleet for which it does not have a valid Certificate of Reported Compliance for the fleet and its listed subcontractors, if applicable, prior to entering into a new or renewed contract with that fleet. Contractor shall comply with the following requirements:

(1) For a project involving the use of vehicles subject to the Off-Road Regulation, Contractor must obtain copies of the valid Certificates of Reported Compliance, as described in 13 CCR section 2449(n), for the fleet selected for this Contract and their listed subcontractors, if applicable, prior to entering into a new or renewed contract with that fleet and provide copies of such Certificates of Reported Compliance to the City within 10 days of issuance of the Notice of Intent to Award letter. Contractor shall enter into a contract with a fleet for which it does not have a valid Certificates of Reported Compliance for the fleet and its listed subcontractors. City shall not enter into a contract with Contractor until all current Certificates of Reported Compliance for the fleet to be used on this Project are provided by Contractor.

(2) The Certificates of Reported Compliance received by Contractor for this Project must be retained by Contractor for three years after the Project's completion. Upon request by CARB, these records must be provided to CARB within five business days of the request. Additionally, upon request by City, these records must be produced to City within five business days of the request.

(3) For emergency contracts that meet the definition of "emergency operations" as defined in 13 CCR section 2449(c)(18), they are exempt from the requirements in 13 CCR section 2449(i)(1)-(3) and sections (1) and (2) above, but must still retain records verifying vehicles subject to the regulation that are operating on the "emergency operations" project are actually being operated on the project for "emergency operations" only. These records, as described in more detail below in section (B) must be retained by Contractor for three years after completion of the Project and upon request from either CARB or the City, Contractor shall provide those records to the requesting party within five business days. All other emergency contracts that do not meet the definition of "emergency operations" must comply with the requirements above and 13 CCR section 2449(i)(1) – (3).

A. "Emergency Operations" is defined as:

1. Any activity for a project conducted during emergency, life threatening situations, where a sudden, unexpected occurrence that poses a clear and imminent danger, requiring immediate action to prevent or mitigate the loss or impairment of life, health, property, or an essential public service; or in

conjunction with any officially declared disaster or state of emergency, as declared by an authorized health officer, agricultural commissioner, fire protection officer, or other authorized health officer;

2. Any activity for a project conducted by essential service utilities to provide electricity, natural gas, telephone, water, or sewer during periods of service outages and emergency; or

3. Operations including_repairing or preventing damage to roads, buildings, terrain, and infrastructure as a result of an earthquake, flood, storm, fire, other infrequent act of nature, or terrorism. Routine maintenance or construction to prevent public health risks does not constitute emergency operations under the Off-Road Regulations.

B. The records retained by Contractor for "emergency operations" projects must include:

1. A description of the emergency;

2. The address or a description of the specific location of the emergency;

3. The dates on which the emergency operations were performed; and

4. An attestation by the fleet that the vehicles are operated on the Project for "emergency operations" only.

Beginning **January 1, 2024,** Contractor is also subject to the requirements described in 13 CCR section 2449(j).

(1) Between March 1 and June 1 of each year, Contractor must collect new valid Certificates of Reported Compliance for the current compliance year, as defined in 13 CCR section 2449(n), from all fleets that have an ongoing contract with Contractor as of March 1 of that year. Contractors shall not write contracts to evade this requirement.

(2) Contractor shall only allow fleets with valid Certificates of Reported Compliance on the Contractor's job sites.

(3) If Contractor discovers that any fleet intending to operate vehicles subject to this regulation for Contractor does not have a valid Certificate of Reported Compliance, as defined in 13 CCR section 2449(n), or if Contractor observes any noncompliant vehicles subject to the regulation on Contractor's job site, then Contractor must report the that to CARB at https://calepacomplaints.secure.force.com/complaints/Complaint, or email **dieselcomplaints@arb.ca.gov**, for each fleet without a valid Certificate of Reported Compliance or each noncompliant vehicle, as applicable, within five business days of such discovery. See 13 CCR 2449(n) for the information required to be disclosed to CARB when reporting non-compliance.

(4) Upon request by CARB, Contractor must immediately disclose to CARB the name and contact information of each responsible party for all vehicles subject to this regulation operating at the job site or for Contractor.

(5) Contractor shall prominently display signage for any project where vehicles subject to this Off-Road Regulation will operate for 8 calendar days or more. The signage must be posted by the eighth calendar day from which the first vehicle operates. The signage will be in lettering larger than size 14-point type and displayed in a conspicuous place where notices to employees are customarily posted at the job site

or where there is employee foot traffic. If one of the above locations is also viewable by the public, it should be posted at that location. An exemption to this posting requirement is permitted if the operational time of a project is 7 calendar days or less. The signage must include the following language, verbatim:

(A) Who does the In-Use Off-Road Regulation Apply to?

The In-Use Off-Road Diesel-Fueled Fleets Regulation (Off-Road Regulation) applies to all self-propelled off-road diesel vehicles 25 horsepower or greater and most two-engine vehicles (except on-road two-engine sweepers) owned or operated in California. This includes vehicles that are rented or leased (rental or leased fleets)."

(B) "In-Use Off-Road Regulation Requirements

Idling Limit: Vehicles cannot idle longer than five minutes. There are exceptions for vehicles that need to idle to perform work.

Labeling: Vehicles must be labeled with a CARB assigned equipment identification number (EIN). The EIN shall be white on a red background, unless the vehicle is part of a captive attainment area fleet, in which case the EIN shall be white on a green background.

The EIN shall be located in clear view on both sides of the outside of the vehicle."

ATTACHMENT G

CONTRACT AGREEMENT

ATTACHMENT G

CONTRACT AGREEMENT

CONSTRUCTION CONTRACT

This Phase-Funded contract is made and entered into between THE CITY OF SAN DIEGO, a municipal corporation, herein called "City", and Burtech Pipeline Incorporated, herein called "Contractor" for construction of **Water and Sewer Group 965** ; Bid No. **K-24-2003-DBB-3-A;** in the total amount of Fifteen Million Three Hundred Seventy Seven Thousand Four Hundred Ninety Seven Dollars and Eighty Four Cents ($15,377,497.84), which is comprised of the Base Bid plus Additive Alternates A and B, consisting of an amount not to exceed $2,000,000.00 for Phase I, $7,000,000.00 for Phase II and $6,377,497.84 for Phase III.

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 **Water and Sewer Group 965**, on file in the office of the City Clerk as Document No. **B-12048**, **B-12057**, as well as all matters referenced therein.

2. The City wishes to construct this Project on a Phase-Funded basis. In accordance with Whitebook section 7-3.10, the City is only obligated to pay for Phase I; Contractor cannot begin, nor is the City financially liable for any additional Phases, unless and until Contractor is issued a Notice to Proceed for each additional Phase by the City.

3. 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 **Water and Sewer Group 965**, Bid Number **K-24-2003-DBB-3-A,** San Diego, California.

4. 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. (See WHITEBOOK, Section 7-3.10, Phased Funding Compensation).

CONTRACT AGREEMENT (continued)

5. 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.

6. This contract is effective as of the date that the Mayor or designee signs the agreement and is approved by the City Attorney in accordance with San Diego Charter Section 40.

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 Section 22.3102 authorizing such execution.

THE CITY OF SAN DIEGO

By _____

Print Name: Claudia C. Abarca
Director
Purchasing & Contracting Department

Date: June 25, 2024

APPROVED AS TO FORM

Mara W. Elliott, City Attorney

By _____

Print Name: _____
Deputy City Attorney

Date: 6/25/24

CONTRACTOR

By _____

Print Name: Dominic J. Burtech

Title: President & CEO

Date: 04/24/2024

City of San Diego License No.: B1996002066

State Contractor's License No.: 718202

DEPARTMENT OF INDUSTRIAL RELATIONS (DIR) REGISTRATION NUMBER: 1000006324

ATTACHMENT G

CONTRACT AGREEMENT

CONSTRUCTION CONTRACT

This Phase-Funded contract is made and entered into between THE CITY OF SAN DIEGO, a municipal corporation, herein called "City", and _____, herein called "Contractor" for construction of **Water and Sewer Group 965** ; Bid No. **K-24-2003-DBB-3-A;** in the total amount of _____($_____), which is comprised of the Base Bid plus/minus Additive/Deductive Alternates _____, consisting of an amount not to exceed $_____ for Phase I and $_____ for Phase II (**add additional phases as needed).**

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 **Water and Sewer Group 965**, on file in the office of the City Clerk as Document No. **B-12048**, **B-12057**, as well as all matters referenced therein.

2. The City wishes to construct this Project on a Phase-Funded basis. In accordance with Whitebook section 7-3.10, the City is only obligated to pay for Phase I; Contractor cannot begin, nor is the City financially liable for any additional Phases, unless and until Contractor is issued a Notice to Proceed for each additional Phase by the City.

3. 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 **Water and Sewer Group 965**, Bid Number **K-24-2003-DBB-3-A,** San Diego, California.

4. 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. (See WHITEBOOK, Section 7-3.10, Phased Funding Compensation).

CONTRACT AGREEMENT (continued)

5. 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.

6. This contract is effective as of the date that the Mayor or designee signs the agreement and is approved by the City Attorney in accordance with San Diego Charter Section 40.

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

THE CITY OF SAN DIEGO

By_____

Print Name: _____

Mayor or designee

Date:_____

APPROVED AS TO FORM

Mara W. Elliott, City Attorney

By_____

Print Name:_____

Deputy City Attorney

Date:_____

CONTRACTOR

By_____

Print Name:_____

Title:_____

Date:_____

City of San Diego License No.:_____

State Contractor's License No.:_____

DEPARTMENT OF INDUSTRIAL RELATIONS (DIR) REGISTRATION NUMBER: _____

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 5-1.3, "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

AMERICANS 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 Americans With Disabilities Act (ADA) outlined in the WHITEBOOK, Section 5-1.2, "California Building Code, California Code of Regulations Title 24 and Americans 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 5-1.4, ("Contractor Standards and Pledge of Compliance"), of the project specifications, and that Contractor has complied with those requirements.

I further certify that each of the Contractor's subcontractors has completed a Pledge of Compliance attesting under penalty of perjury of having complied with City of San Diego Municipal Code § 22.3004.

CONTRACTOR CERTIFICATION

EQUAL BENEFITS ORDINANCE CERTIFICATION

I declare under penalty of perjury that I am familiar with the requirements of and in compliance with the City of San Diego Municipal Code § 22.4300 regarding Equal Benefits Ordinance.

CONTRACTOR CERTIFICATION

EQUAL PAY ORDINANCE CERTIFICATION

Contractor shall comply with the Equal Pay Ordinance (EPO) codified in the San Diego Municipal Code (SDMC) at section 22.4801 through 22.4809, unless compliance is not required based on an exception listed in SDMC section 22.4804.

Contractor shall require all of its subcontractors to certify compliance with the EPO in their written subcontracts.

Contractor must post a notice informing its employees of their rights under the EPO in the workplace or job site.

By signing this Contract with the City of San Diego, Contractor acknowledges the EPO requirements and pledges ongoing compliance with the requirements of SDMC Division 48, section 22.4801 et seq., throughout the duration of this Contract.

CONTRACTOR CERTIFICATION

IN-USE OFF-ROAD DIESEL FUELED FLEET REGULATION (OFF-ROAD REGULATION) COMPLIANCE (CARB)

I hereby certify that Contractor is familiar with the requirements 13 CCR 2449, 2449.1, and 2449.2, as well as Attachment F, In-Use Off-Road Diesel Fueled Fleet Regulation (Off-Road Regulation) Compliance (CARB), and that Contractor shall comply with these requirements.

I further certify that each of the Contractor's listed subcontractors is familiar with these requirements and shall also comply.

CONTRACTOR CERTIFICATION

PRODUCT ENDORSEMENT

I declare under penalty of perjury that I acknowledge and agree to comply with the provisions of City of San Diego Administrative Regulation 95.65, concerning product endorsement. Any advertisement identifying or referring to the City as the user of a product or service requires the prior written approval of the City.

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:

Water and Sewer Group 965
(Project Title)

as particularly described in said contract and identified as Bid No. **K-24-2003-DBB-3-A** ; SAP No. (WBS) **B-12048**, **B-12057**; 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 _____, _____.

By:_____
Contractor

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

COMPANY LETTERHEAD

CERTIFICATE OF COMPLIANCE

Materials and Workmanship Compliance

For Contract or Task_____

I certify that the material listed below complies with the materials and workmanship requirements of the Caltrans Contract Plans, Special Provisions, Standard Specifications, and Standard Plans for the contract listed above.

I also certify that I am an official representative for_____, the manufacturer of the material listed above. Furthermore, I certify that where California test methods, physical or chemical test requirements are part of the specifications, that the manufacturer has performed the necessary quality control to substantiate this certification.

Material Description:

Manufacturer: _____

Model:_____

Serial Number (if applicable)_____

Quantity to be supplied:_____

Remarks:_____

Signed by: _____

Printed Name:_____

Title: _____

Company: _____

Date: _____

City of San Diego

Engineering & Capital Projects Department, CMFE Division

NOTICE OF MATERIALS TO BE USED

To:_____ Date: _____, 20____

Resident Engineer

You are hereby notified that the materials required for use under Contract No. _____ for construction of _____

_____,

in the City of San Diego, will be obtained from sources herein designated.

CONTRACT ITEM NO. **(Bid Item)**	**KIND OF MATERIAL** **(Category)**	**NAME AND ADDRESS WHERE MATERIAL CAN BE INSPECTED** **(At Source)**

It is requested that you arrange for a sampling, testing, and inspection of the materials prior to delivery, in accordance with Section 4 – CONTROL OF MATERIALS of the WHITEBOOK, where it is practicable, and in accordance with your policy. It is understood that source inspection does not relieve the Contractor of full responsibility for incorporating in the work, materials that comply in all respects with the contract plans and specifications, nor does it preclude subsequent rejection of materials found to be undesirable or unsuitable.

Distribution:

Supplier

_____ _____

Signature of Supplier Address

LIST OF SUBCONTRACTORS

***** PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY *** TO BE SUBMITTED IN ELECTRONIC FORMAT ONLY*** SEE INSTRUCTIONS TO BIDDERS, FOR FURTHER INFORMATION**

In accordance with the requirements of the "Subletting and Subcontracting Fair Practices Act", Section 4100, of the California Public Contract Code (PCC), the Bidder is to list below the name, address and license number of each Subcontractor who will perform work, labor, render services or specially fabricate and install a portion [type] of the work or improvement, in an amount of or in excess of 0.5% of the Contractor's total Bid. Failure to comply with this requirement may result in the Bid being rejected as non-responsive. The Contractor is to list only one Subcontractor for each portion of the Work. The Bidder's attention is directed to the Special Provisions – General; Paragraph 2-3 Subcontracts, which stipulates the percentage of the Work to be performed with the Bidder's own forces. The Bidder is to also list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, SDB, WoSB, HUBZone, and SDVOSB Subcontractors for which the Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB①	WHERE CERTIFIED②	CHECK IF JOINT VENTURE PARTNERSHIP
Name:_____ Address:_____ City:_____ State:_____ Zip:_____ Phone:_____ Email:_____							
Name:_____ Address:_____ City:_____ State:_____ Zip:_____ Phone:_____ Email:_____							

① As appropriate, Bidder shall identify Subcontractor as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):

Certified Minority Business Enterprise	MBE	Certified Woman Business Enterprise	WBE
Certified Disadvantaged Business Enterprise	DBE	Certified Disabled Veteran Business Enterprise	DVBE
Other Business Enterprise	OBE	Certified Emerging Local Business Enterprise	ELBE
Certified Small Local Business Enterprise	SLBE	Small Disadvantaged Business	SDB
Woman-Owned Small Business	WoSB	HUBZone Business	HUBZone
Service-Disabled Veteran Owned Small Business	SDVOSB		

② As appropriate, Bidder shall indicate if Subcontractor is certified by:

City of San Diego	CITY	State of California Department of Transportation	CALTRANS
California Public Utilities Commission	CPUC		
State of California's Department of General Services	CADoGS	City of Los Angeles	LA
State of California	CA	U.S. Small Business Administration	SBA

The Bidder will not receive any subcontracting participation percentages if the Bidder fails to submit the required proof of certification.

NAMED EQUIPMENT/MATERIAL SUPPLIER LIST

***** PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY *** TO BE SUBMITTED IN ELECTRONIC FORMAT ONLY *** SEE INSTRUCTIONS TO BIDDERS FOR FURTHER INFORMATION**

NAME, ADDRESS AND TELEPHONE NUMBER OF VENDOR/SUPPLIER	MATERIALS OR SUPPLIES	DOLLAR VALUE OF MATERIAL OR SUPPLIES	SUPPLIER (Yes/No)	MANUFACTURER (Yes/No)	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB①	WHERE CERTIFIED②
Name:_____ Address:_____ City:_____ State:_____ Zip:_____ Phone:_____ Email:_____						
Name:_____ Address:_____ City:_____ State:_____ Zip:_____ Phone:_____ Email:_____						

① As appropriate, Bidder shall identify Vendor/Supplier as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):

Certified Minority Business Enterprise	MBE	Certified Woman Business Enterprise	WBE
Certified Disadvantaged Business Enterprise	DBE	Certified Disabled Veteran Business Enterprise	DVBE
Other Business Enterprise	OBE	Certified Emerging Local Business Enterprise	ELBE
Certified Small Local Business Enterprise	SLBE	Small Disadvantaged Business	SDB
Woman-Owned Small Business	WoSB	HUBZone Business	HUBZone
Service-Disabled Veteran Owned Small Business	SDVOSB		

② As appropriate, Bidder shall indicate if Vendor/Supplier is certified by:

City of San Diego	CITY	State of California Department of Transportation	CALTRANS
California Public Utilities Commission	CPUC		
State of California's Department of General Services	CADoGS	City of Los Angeles	LA
State of California	CA	U.S. Small Business Administration	SBA

The Bidder will not receive any subcontracting participation percentages if the Bidder fails to submit the required proof of certification.

ELECTRONICALLY SUBMITTED FORMS

FAILURE TO FULLY COMPLETE AND SUBMIT ANY OF THE FOLLOWING FORMS WILL DEEM YOUR BID NON-RESPONSIVE.

PLANETBIDS WILL NOT ALLOW FOR BID SUBMISSIONS WITHOUT THE ATTACHMENT OF THESE FORMS

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. **SUBCONTRACTOR LISTING FOR ALTERNATE ITEMS**

D. **MANDATORY DISCLOSURE OF BUSINESS INTERESTS FORM**

E. **DEBARMENT AND SUSPENSION CERTIFICATION FOR PRIME CONTRACTOR**

F. **DEBARMENT AND SUSPENSION CERTIFICATION FOR SUBCONTRACTORS, SUPPLIERS AND MANUFACTURERS**

BID BOND

See Instructions to Bidders, Bidder Guarantee of Good Faith (Bid Security)

KNOW ALL MEN BY THESE PRESENTS,

That _____ as Principal, and _____ as Surety, are held and firmly bound unto The City of San Diego hereinafter called "OWNER," in the sum of **10% OF THE TOTAL BID AMOUNT** for the payment of which sum, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, said Principal has submitted a Bid to said OWNER to perform the WORK required under the bidding schedule(s) of the OWNER's Contract Documents entitled

_____

NOW THEREFORE, if said Principal is awarded a contract by said OWNER and, within the time and in the manner required in the "Notice Inviting Bids" enters into a written Agreement on the form of agreement bound with said Contract Documents, furnishes the required certificates of insurance, and furnishes the required Performance Bond and Payment Bond, then this obligation shall be null and void, otherwise it shall remain in full force and effect. In the event suit is brought upon this bond by said OWNER and OWNER prevails, said Surety shall pay all costs incurred by said OWNER in such suit, including a reasonable attorney's fee to be fixed by the court.

SIGNED AND SEALED, this _____ day of _____, 20_____

_____ (SEAL) _____ (SEAL)

(Principal) (Surety)

By: _____ By: _____

(Signature) (Signature)

(SEAL AND NOTARIAL ACKNOWLEDGEMENT OF SURETY)

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: _____

Certified By _____ Title _____

Name

_____ Date _____

Signature

USE ADDITIONAL FORMS AS NECESSARY

SUBCONTRACTORS FOR ALTERNATES

***** FOR USE WHEN LISTING SUBCONTRACTORS FOR ALTERNATES ONLY *****
(Use Additional Sheets As Needed)

IDENTIFY ALTERNATE (*example*: Deductive Alternate B) Only one Alternate and Sub per line	SUBCONTRACTOR NAME, LOCATION, PHONE & EMAIL	SUBCNTRACTOR'S CA LICENSE NUMBER	SUBCONTRACTOR'S DIR REGISTRATION NUMBER	IS SUBCONTRACTOR CONSTRUCTOR, DESIGNER, OR SUPPLIER	TYPE OF WORK	DOLLAR VALUE OF THE ALTERNATE SUBCONTRACT (Negative If Deductive)
	Name:__________ Address:__________ City:________ State:_____ Zip:_____ Phone:_______ Email:__________					
	Name:__________ Address:__________ City:________ State:_____ Zip:_____ Phone:_______ Email:__________					
	Name:__________ Address:__________ City:________ State:_____ Zip:_____ Phone:_______ Email:__________					
	Name:__________ Address:__________ City:________ State:_____ Zip:_____ Phone:_______ Email:__________					

SUBCONTRACTORS FOR ALTERNATE ITEMS ARE NOT CONSIDERED IN THE CALCULATION TOWARD ACHIEVING SLBE/ELBE PARTICIPATION GOALS

.

Mandatory Disclosure of Business Interests Form

BIDDER/PROPOSER INFORMATION

Legal Name		DBA	
Street Address	**City**	**State**	**Zip**
Contact Person, Title		**Phone**	**Fax**

Provide the name, identity, and precise nature of the interest* of all persons who are directly or indirectly involved** in this proposed transaction (SDMC § 21.0103).

* The precise nature of the interest includes:

- the percentage ownership interest in a party to the transaction,
- the percentage ownership interest in any firm, corporation, or partnership that will receive funds from the
- transaction, the value of any financial interest in the transaction,
- any contingent interest in the transaction and the value of such interest should the contingency be satisfied, and any
- philanthropic, scientific, artistic, or property interest in the transaction.

** Directly or indirectly involved means pursuing the transaction by:

- communicating or negotiating with City officers or employees,
- submitting or preparing applications, bids, proposals or other documents for purposes of contracting with the City,
- or directing or supervising the actions of persons engaged in the above activity.

Name	Title/Position
City and State of Residence	**Employer (if different than Bidder/Proposer)**
Interest in the transaction	

Name	Title/Position
City and State of Residence	**Employer (if different than Bidder/Proposer)**
Interest in the transaction	

* Use Additional Pages if Necessary *

Under penalty of perjury under the laws of the State of California, I certify that I am responsible for the completeness and accuracy of the responses contained herein, and that all information provided is true, full and complete to the best of my knowledge and belief. I agree to provide written notice to the Mayor or Designee within five (5) business days if, at any time, I learn that any portion of this Mandatory Disclosure of Business Interests Form requires an updated response. Failure to timely provide the Mayor or Designee with written notice is grounds for Contract termination.

Print Name, Title _____ Signature _____ Date _____

Failure to sign and submit this form with the bid/proposal shall make the bid/proposal non-responsive. In the case of an informal solicitation, the contract will not be awarded unless a signed and completed Mandatory Disclosure of Business Interests Form is submitted.

DEBARMENT AND SUSPENSION CERTIFICATION

PRIME CONTRACTOR

FAILURE TO COMPLETE AND SUBMIT AT TIME OF BID SHALL RENDER BID NON-RESPONSIVE

EFFECT OF DEBARMENT OR SUSPENSION
To promote integrity in the City's contracting processes and to protect the public interest, the City shall only enter into contracts with responsible- bidders and contractors. In accordance with San Diego Municipal Code §22.0814 (a): *Bidders* and c*ontractors* who have been *debarred* or *suspended* are excluded from submitting bids, submitting responses to requests for proposal or qualifications, receiving *contract* awards, executing *contracts*, participating as a *subcontractor*, employee, agent or representative of another *person* contracting with the City.

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 Names of the Principal Individual owner(s).

The names of all persons interested in the foregoing proposal as Principals are as follows:

NAME	TITLE

IMPORTANT NOTICE: If Bidder or other interested person is a corporation, state secretary, treasurer, and manager thereof; if a co-partnership, state true name of firm, also names of all individual co-partners composing firm; if Bidder or other interested person is an individual, state first and last names in full.

The Bidder, under penalty of perjury, certifies that, except as noted below, he/she or any person associated therewith in the capacity of owner, partner, director, officer, manager:

- Is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any Federal, State or local agency;
- has not been suspended, debarred, voluntarily excluded or determined ineligible by any Federal, State or local agency within the past 3 years;
- does not have a proposed debarment pending; and
- has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

If there are any exceptions to this certification, insert the exceptions in the following space.

Exceptions will be considered in determining bidder responsibility. For any exception noted above, indicate below to whom it applies, initiating agency, and dates of action.

Contractor Name:_____

Certified By _____ Title _____

Name

_____ Date _____

Signature

NOTE: Providing false information may result in criminal prosecution or administrative sanctions.

DEBARMENT AND SUSPENSION CERTIFICATION

SUBCONTRACTORS, SUPPLIERS AND MANUFACTURERS

TO BE COMPLETED BY BIDDER

FAILURE TO COMPLETE AND SUBMIT AT TIME OF BID SHALL RENDER BID NON-RESPONSIVE

Names of the Principal individual owner(s)

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 Names of the Principal Individual owner(s) for their subcontractor/supplier/manufacturers.

Please indicate if principal owner is serving in the capacity of **subcontractor**, **supplier,** and/or **manufacturer**:

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

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NAME	TITLE

Contractor Name: _____

Certified By _____ Title _____

Name

_____ Date _____

Signature

USE ADDITIONAL FORMS AS NECESSARY*