

City of San Diego

CONTRACTOR'S NAME: _____
ADDRESS: _____
TELEPHONE NO.: _____ FAX NO.: _____
CITY CONTACT: **CLEMENTINA GIORDANO - CONTRACT SPECIALIST. Email: cgiordano@san-diego.gov**
Phone: (619) 533-3481, Fax: (619) 533-3633
LSchaar/BDoringo/egz

CONTRACT DOCUMENTS



FOR

SEWER AND WATER GROUP 758

VOLUME 1 OF 2

BID NO.: _____ **K-13-5449-DBB-3**
SAP NO. (WBS/IO/CC): _____ **B-00365 / B-00074**
CLIENT DEPARTMENT: _____ **2011 / 2013**
COUNCIL DISTRICT: _____ **2**
PROJECT TYPE: _____ **JA / KB**

THIS CONTRACT IS SUBJECT TO THE FOLLOWING:

- PHASED-FUNDING
- THE CITY'S SUBCONTRACTING PARTICIPATION REQUIREMENTS FOR SLBE PROGRAM.

BID DUE DATE:

**2:00 PM
MARCH 26, 2013
CITY OF SAN DIEGO
PUBLIC WORKS DEPARTMENT
1010 SECOND AVENUE, SUITE 1400, MS 614C
SAN DIEGO, CA 92101**

ENGINEER OF WORK

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



For City Engineer

2/19/13

Date

Seal:



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CITY OF SAN DIEGO, CALIFORNIA

NOTICE INVITING BIDS

1. **RECEIPT AND OPENING OF BIDS:** Bids will be received at the Public Works Contracting Group at the location, time, and date shown on the cover of these specifications for performing work on **SEWER AND WATER GROUP 758** (Project).
2. **DESCRIPTION OF WORK:** The Work involves furnishing all labor, materials, equipment, services, and other incidental works and appurtenances for the construction of the Project as described below:

The Work consists of: Construction of 8-Inch Sewer Mains, 12-Inch Water Mains, Water Services, Fire Hydrants, Sewer Laterals, Sewer Lateral Replumbs, Manholes, Curb Ramps, Resurfacing, Traffic Control, Abandonment of Existing Sewer Mains in Easement, Rehab Existing Sewer Mains, and All Other Work and Appurtenances.

Work on Adrian St. and West Point Loma Blvd. will be completed between October and December.

2.1. The Work shall be performed in accordance with:

2.1.1. This Notice Inviting Bids and Plans numbered **35372-01-D** through **35372-44-D**, inclusive.

3. **EQUAL OPPORTUNITY**

3.1. To The WHITEBOOK, Chapter 10, Sections D and E, DELETE in their entirety and SUBSTITUTE with the following:

D. CITY'S EQUAL OPPORTUNITY COMMITMENT.

1. Nondiscrimination in Contracting Ordinance.

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

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

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

2. Disclosure of Discrimination Complaints. As part of its Bid or Proposal, the Bidder shall provide to the City a list of all instances within the past 10 years where a complaint was filed or pending

against Bidder in a legal or administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors, or suppliers, and a description of the status or resolution of that complaint, including any remedial action taken.

3. Upon the City's request, the Contractor agrees to provide to the City, within 60 days, a truthful and complete list of the names of all Subcontractors and Suppliers that the Contractor has used in the past 5 years on any of its contracts that were undertaken within San Diego County, including the total dollar amount paid by the Contractor for each subcontract or supply contract.
4. The Contractor further agrees to fully cooperate in any investigation conducted by the City pursuant to the City's Nondiscrimination in Contracting Ordinance, Municipal Code §§22.3501 through 22.3517. The Contractor understands and agrees that violation of this clause shall be considered a material breach of the Contract and may result in remedies being ordered against the Contractor up to and including contract termination, debarment and other sanctions for violation of the provisions of the Nondiscrimination in Contracting Ordinance. The Contractor further understands and agrees that the procedures, remedies and sanctions provided for in the Nondiscrimination in Contracting Ordinance apply only to violations of the Ordinance.

E. EQUAL EMPLOYMENT OPPORTUNITY OUTREACH PROGRAM.

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

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

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

2. If the Contract is competitively solicited, the selected Bidder shall submit a Work Force Report (Form BB05), within 10 Working Days after receipt by the Bidder of Contract forms to the City for approval as specified in the Notice of Intent to Award letter from the City.
3. If a Work Force Report is submitted, and the City determines there are under-representations when compared to County Labor Force Availability data, the selected Bidder shall submit an Equal Employment Opportunity Plan.
4. If the selected Bidder submits an Equal Employment Opportunity Plan, it shall include the following assurances:

1. The Contractor shall maintain a working environment free of discrimination, harassment, intimidation and coercion at all sites and in all facilities at which the Contractor's employees are assigned to work.
2. The Contractor reviews its EEO Policy, at least annually, with all on-site supervisors involved in employment decisions.
3. The Contractor disseminates and reviews its EEO Policy with all employees at least once a year, posts the policy statement and EEO posters on all company bulletin boards and job sites, and documents every dissemination, review and posting with a written record to identify the time, place, employees present, subject matter, and disposition of meetings.
4. The Contractor reviews, at least annually, all supervisors' adherence to and performance under the EEO Policy and maintains written documentation of these reviews.
5. The Contractor discusses its EEO Policy Statement with subcontractors with whom it anticipates doing business, includes the EEO Policy Statement in its subcontracts, and provides such documentation to the City upon request.
6. The Contractor documents and maintains a record of all bid solicitations and outreach efforts to and from subcontractors, contractor associations and other business associations.
7. The Contractor disseminates its EEO Policy externally through various media, including the media of people of color and women, in advertisements to recruit, maintains files documenting these efforts, and provides copies of these advertisements to the City upon request.
8. The Contractor disseminates its EEO Policy to union and community organizations.
9. The Contractor provides immediate written notification to the City when any union referral process has impeded the Contractor's efforts to maintain its EEO Policy.
10. The Contractor maintains a current list of recruitment sources, including those outreaching to people of color and women, and provides written notification of employment opportunities to these recruitment sources with a record of the organizations' responses.
11. The Contractor maintains a current file of names, addresses and phone numbers of each walk-in applicant, including people of color and women, and referrals from unions, recruitment sources, or community organizations with a description of the employment action taken.
12. The Contractor encourages all present employees, including people of color and women employees, to recruit others.

13. The Contractor maintains all employment selection process information with records of all tests and other selection criteria.
14. The Contractor develops and maintains documentation for on-the-job training opportunities, participates in training programs, or both for all of its employees, including people of color and women, and establishes apprenticeship, trainee, and upgrade programs relevant to the Contractor's employment needs.
15. The Contractor conducts, at least annually, an inventory and evaluation of all employees for promotional opportunities and encourages all employees to seek and prepare appropriately for such opportunities.
16. The Contractor ensures the company's working environment and activities are non-segregated except for providing separate or single-user toilets and necessary changing facilities to assure privacy between the sexes.

4. SUBCONTRACTING PARTICIPATION PERCENTAGES.

4.1. 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	8.8%
2. ELBE participation	13.5%
3. Total mandatory participation	22.3%

4.2. The Bidders are strongly encouraged to attend the Pre-Bid Meeting to better understand the Good Faith Effort requirements of this contract. See the City's document titled "SLBE Program, Instructions For Bidders Completing The Good Faith Effort Submittal" available at: <http://www.sandiego.gov/eoc/>

4.3. The Bid will be declared non-responsive if the Bidder fails the following mandatory conditions:

4.3..1. Bidder's inclusion of SLBE-ELBE certified subcontractors at the overall mandatory participation percentage identified in this document; OR.

4.3..2. Bidder's submission of Good Faith Effort documentation demonstrating the Bidder made a good faith effort to outreach to and include SLBE-ELBE Subcontractors required in this document within 3 Working Day of the Bid opening if the overall mandatory participation percentage is not met.

5. PRE-BID MEETING:

- 5.1.** There will be a Pre-Bid Meeting to discuss the scope of the Project, bidding requirements, pre-qualification process, and Equal Opportunity Contracting Program requirements and reporting procedures in the Public Works Contracting Group, Conference Room at 1010 Second Avenue, Suite 1400, San Diego, CA 92101 **at 10:00 AM, on MARCH 5, 2013.**
- 5.2.** All potential bidders are encouraged to attend.
- 5.3.** To request a copy of the agenda on an alternative format, or to request a sign language or oral interpreter for this meeting, call the Public Works Contracting Group at (619) 533-3450 at least 5 Working Days prior to the Pre-Bid Meeting to ensure availability.

6. CONTRACTOR REGISTRATION AND ELECTRONIC REPORTING SYSTEM:

- 6.1.** **Prior** to the Award of the Contract or each Task Order, you and your Subcontractors and Suppliers **must** register with Prism®, the City’s web-based contract compliance portal at: <https://pro.prismcompliance.com/default.aspx>.
- 6.2.** 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.

7. CONSTRUCTION COST: The City’s estimated construction cost for this contract is **\$5,550,000.**

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

Sewer and Water Group 758 is roughly bounded by Famosa Blvd., West Point Loma Blvd., Larga Circle, and Voltaire Street. Construction of the project will affect portions of the following streets and locations: West Point Loma Blvd., Adrian Street, Bob Street, Polack Street, Worden Street, Nipoma Place, Nipoma Street, Kingsley Street, Kemper Court, Larga Circle, Camto Zocalo, Camto Dehesa, Camto Umbral and Curtis Street.

9. CONTRACT TIME: The Contract Time for completion of the Work shall be **178 Working Days.**

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

10.1. The City has determined the following licensing classification(s) for this contract:

Option	Classification(s)
1	CLASS A
2	CLASS C34

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

11. **JOINT VENTURE CONTRACTORS.** Provide a copy of the Joint Venture agreement and the Joint Venture license to the City within 10 Working Days after receiving the Contract forms. See 2-1.1.2, “Joint Venture Contractors” in The WHITEBOOK for details.
12. **WAGE RATES:** Prevailing wages are not applicable to this contract.
13. **INSURANCE REQUIREMENTS:**
 - 13.1. 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.
 - 13.2. Refer to sections 7-3, “LIABILITY INSURANCE”, and 7-4, “WORKERS’ COMPENSATION INSURANCE” of the Supplementary Special Provisions (SSP) for the insurance requirements which must be met.
14. **PREQUALIFICATION OF CONTRACTORS:**
 - 14.1. Contractors submitting Bid must be pre-qualified for the total amount proposed, inclusive of all alternate items prior to the date of submittal. Bids from contractors who have not been pre-qualified as applicable and Bids that exceed the maximum dollar amount at which contractors are pre-qualified will be deemed **non-responsive** and ineligible for award. Complete information and prequalification questionnaires are available at:

<http://www.sandiego.gov/cip/bidopps/prequalification.shtml>
 - 14.2. The completed questionnaire, financial statement, and bond letter or a copy of the contractor’s SLBE-ELBE certification and bond letter, must be submitted no later than 2 weeks prior to the bid opening to the Public Works Department - Engineering & Capital Project, Prequalification Program, 1010 Second Avenue, Suite 1200, San Diego, CA 92101. For additional information or the answer to questions about the prequalification program, contact David Stucky at 619-533-3474 or dstucky@sandiego.gov.

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

Title	Edition	Document Number
Standard Specifications for Public Works Construction (“The GREENBOOK”)	2012	PITS070112-01
City of San Diego Standard Specifications for Public Works Construction (“The WHITEBOOK”)*	2012	PITS070112-02
City of San Diego Standard Drawings*	2012	PITS070112-03
Caltrans Standard Specifications	2010	PITS070112-04
Caltrans Standard Plans	2010	PITS070112-05
California MUTCD	2012	PITS070112-06
City Standard Drawings - Updates Approved For Use (when specified)*	Varies	Varies
Standard Federal Equal Employment Opportunity Construction Contract Specifications and the Equal Opportunity Clause Dated 09-11-84	1984	769023
NOTE: Available online under Engineering Documents and References at: http://www.sandiego.gov/publicworks/edocref/index.shtml		

16. **CITY’S RESPONSES AND ADDENDA:** The City at its option, may respond to any or all questions submitted in writing, via letter, or FAX in the form of an addendum. No oral comment shall be of any force or effect with respect to this solicitation. The changes to the Contract Documents through addendum are made effective as though originally issued with the Bid. The Bidders shall acknowledge the receipt of Addenda on the form provided for this purpose in the Bid.
17. **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.
18. **CONTRACT PRICING FORMAT:** This solicitation is for a Lump Sum contract with Unit Price provisions as set forth in the Bid Proposal Form(s), Volume 2.
19. **SUBMITTAL OF “OR EQUAL” ITEMS:** See Section 4-1.6, “Trade Names or Equals” in The WHITEBOOK and as amended in the SSP.
20. **AWARD PROCESS:**
- 20.1. The Award of this contract is contingent upon the Contractor’s compliance with all conditions precedent to Award.

- 20.2.** 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.
- 20.3.** This contract will be deemed executed, and effective, only upon the signing of the Contract by the Mayor or designee of the City.
- 21. SUBCONTRACT LIMITATIONS:** The Bidder's attention is directed to Standard Specifications for Public Works Construction, Section 2-3, "SUBCONTRACTS" in The WHITEBOOK and as amended in the SSP which requires the Contractor to self perform the amount therein stipulated. Failure to comply with these requirements may render the Bid **non-responsive** and ineligible for award.
- 22. AVAILABILITY OF PLANS AND SPECIFICATIONS:** Contract Documents may be obtained by visiting the City's website: <http://www.sandiego.gov/cip>. Plans and Specifications for this contract are also available for review in the office of the City Clerk or Public Works Contracting Group.
- 23. QUESTIONS:**
- 23.1.** The Director (or designee), of the Public Works Department is the officer responsible for opening, examining, and evaluating the competitive Bids submitted to the City for the acquisition, construction and completion of any public improvement except when otherwise set forth in these documents. All questions related to this procurement action shall be addressed to the Public Works Contracting Group, Attention Contract Specialist, 1010 Second Avenue, Suite 1400, San Diego, California, 92101, and Telephone No. (619) 533-3450.
- 23.2.** Questions received less than 14 days prior to the date for opening of Bids may not be answered.
- 23.3.** Interpretations or clarifications considered necessary by the City in response to such questions will be issued by Addenda which will be uploaded to the City's online bidding service.
- 23.4.** Only questions answered by formal written addenda will be binding. Oral and other interpretations or clarifications will be without legal effect. It is the Bidder's responsibility to become informed of any Addenda that have been issued and to include all such information in its Bid.
- 24. ELIGIBLE BIDDERS:** 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.

- 25. 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 with the Notice Inviting Bids and Contract forms.
- 26. PROPOSAL FORMS:** Bid shall be made only upon the Bidding Documents i.e., Proposal form attached to and forming a part of the specifications. The signature of each person signing shall be in longhand.
- 26.1.** Bidder shall complete and submit all pages in the "Bidding Document" Section (see Volume 2) as their Bid per the schedule given under "Required Documents Schedule," (see Volume 1). Bidder is requested to retain for their reference other portions of the Contract Documents that are not required to be submitted with the Bid. The entire specifications for the bid package do not need to be submitted with the bid.
- 26.2.** The City may require any Bidder to furnish a statement of experience, financial responsibility, technical ability, equipment, and references.
- 26.3.** Bids and certain other forms and documents as specified in the Volume 2 of 2 of the Contract Documents shall be enclosed in a sealed envelope and shall bear the title of the work and name of the Bidder and the appropriate State Contractors License designation which the Bidder holds.
- 26.4.** Bids may be withdrawn by the Bidder prior to, but not after, the time fixed for opening of Bids.
- 27. BIDDERS' GUARANTEE OF GOOD FAITH (BID SECURITY):**
- 27.1.** With the exception of the contracts valued \$5,000 or less, JOC and Design-Build contracts, and contracts subject to the Small and Local Business Program of \$250,000 or less e.g., ELBE contracts, each Bidder shall accompany its Bid with either a cashier's check upon some responsible bank, or a check upon such bank properly certified or an approved corporate surety bond payable to the City of San Diego, for an amount of not less than 10% of the aggregate sum of the Bid, which check or bond, and the monies represented thereby shall be held by the City as a guarantee that the Bidder, if awarded the contract, will in good faith enter into such contract and furnish the required final bonds.
- 27.2.** The Bidder agrees that in case of Bidder's refusal or failure to execute this contract and give required final bonds, the money represented by a cashier's or certified check shall remain the property of the City, and if the Bidder shall fail to execute this contract, the Surety agrees that it will pay to the City damages which the City may suffer by reason of such failure, not exceeding the sum of 10% of the amount of the Bid.
- 27.3.** A Bid received without the specified bid security will be rejected as being **non-responsive**.

28. AWARD OF CONTRACT OR REJECTION OF BIDS:

- 28.1.** This contract may be awarded to the lowest responsible and reliable Bidder.
- 28.2.** Bidders shall complete the entire Bid schedule (also referred to as “schedule of prices” or Proposal form). Incomplete price schedules will be rejected as being non-responsive.
- 28.3.** The City reserves the right to reject any or all Bids, and to waive any informality or technicality in Bids received and any requirements of these specifications as to bidding procedure.
- 28.4.** Bidders will not be released on account of their errors of judgment. Bidders may be released only upon receipt by the City from the Bidder within 3 Working Days, excluding Saturdays, Sundays, and state holidays, after the opening of Bids, of written notice which includes proof of honest, credible, clerical error of material nature, free from fraud or fraudulent intent, and of evidence that reasonable care was observed in the preparation of the Bid.
- 28.5.** A non-selected Bidder may protest award of the Contract to the selected Bidder by submitting a written “Notice of Intent to Protest” including supporting documentation which shall be received by Public Works Contracting Group no later than 10 days after the City’s announcement of the selected Bidder or no later than 10 days from the date that the City issues notice of designation of a Bidder as non-responsive in accordance with San Diego Municipal Code Chapter 2, § 22.3029, “Protests of Contract Award.”
- 28.6.** The City of San Diego will not discriminate with regard to race, religious creed, color, national origin, ancestry, physical handicap, marital status, sex or age, in the award of contracts.
- 28.7.** Each Bid package properly executed as required by these specifications shall constitute a firm offer, which may be accepted by the City within the time specified in the Proposal.
- 28.8.** The City reserves the right to evaluate all Bids and determine the lowest Bidder on the basis of any proposed alternates, additive items or options, at its discretion that will be disclosed in the Volume 2 of 2.

29. BID RESULTS:

- 29.1.** The Bid opening by the City 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 public announcement will be posted in the City’s web page: <http://www.sandiego.gov/bids-contracts/>, with the name of the newly designated Apparent Low Bidder.
- 29.2.** To obtain Bid results, either attend Bid opening, review the results on the City’s web site, or provide a self-addressed, stamped envelope, referencing Bid number, and Bid tabulation will be mailed to you upon verification of extensions. Bid results cannot be given over the telephone.

30. THE CONTRACT:

- 30.1.** 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.
- 30.2.** 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.
- 30.3.** 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.
- 30.4.** 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.
- 30.5.** 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. 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.

- 31. EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE OF WORK:** The Bidder shall examine carefully the Project Site, the Plans and Specifications, other materials as described in the Special Provisions, Section 2-7, and the proposal forms (e.g., Bidding Documents). The submission of a Bid shall be conclusive evidence that the Bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and scope of Work, the quantities of materials to be furnished, and as to the requirements of the Bidding Documents Proposal, Plans, and Specifications.

- 32. CITY STANDARD PROVISIONS.** This contract is subject to the following standard provisions. See The WHITEBOOK for details.
- 32.1.** The City of San Diego Resolution No. R-277952 adopted on May 20, 1991 for a Drug-Free Workplace.
 - 32.2.** The City of San Diego Resolution No. R-282153 adopted on June 14, 1993 related to the Americans with Disabilities Act.
 - 32.3.** The City of San Diego Municipal Code §22.3004 for Pledge of Compliance.
 - 32.4.** The City of San Diego’s Labor Compliance Program and the State of California Labor Code §§1771.5(b) and 1776.
 - 32.5.** 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.
 - 32.6.** The City’s Equal Benefits Ordinance (EBO), Chapter 2, Article 2, Division 43 of The San Diego Municipal Code (SDMC).
 - 32.7.** The City’s Information Security Policy (ISP) as defined in the City’s Administrative Regulation 90.63.
- 33. PRE-AWARD ACTIVITIES:**
- 33.1.** The selected contractor by the City to execute a contract for this Work shall provide the information required within the time specified in “Required Documents,” of this bid package. Failure to provide the information within the time specified may result in the Bid being rejected as **non-responsive**.
 - 33.2.** If the Bid is rejected as non-responsive, the selected contractor by the City to execute a contract for this Work shall forfeit the required Bid. The decision that the selected contractor by the City to execute a contract for this Work is non-responsive for failure to provide the information required within the time specified shall be at the sole discretion of the City.
- 34. PHASED FUNDING:**
- 34.1.** For phased funded contracts, the City typically secures enough funds for the first 90 days of the contract prior to award. Within 10 Working Days after Bid opening date the Apparent Low Bidder must contact the Project Manager to discuss fund availability and the duration of the first phase and submit the Pre-Award Schedule to the City for approval and preparation of the first Phased Funding Schedule Agreement.
 - 34.2.** The Apparent Low Bidder will be required to provide a Pre-award Schedule in accordance with 6-1, “CONSTRUCTION SCHEDULE AND COMMENCEMENT OF THE WORK” and 9-3, “PAYMENT” prior to award of Contract.
 - 34.3.** If the Bid submitted by the Apparent Low Bidder is rejected by the City for any reason, then within 5 Working Days after receiving notice, the next Apparent Low Bidder must provide the Pre-Award Schedule. This process will continue until the City has selected the Apparent Low Bidder or have decided to reject all Bids.

- 34.4.** The first Phased Funding Schedule Agreement must show the fund availability for the first phase. Within 22 Working Days from the date of the Bid Opening or notice to the next Apparent Low Bidder (whichever occurs last) and once a Pre-Award Schedule is accepted by the City, the City will present the first Phased Funding Schedule Agreement to you when you are selected as the Apparent Low Bidder as defined in the City's Municipal Code, §22.3003.
- 34.5.** At the City's request, you must meet with the City's project manager before execution of the first Phased Funding Schedule Agreement to discuss his or her comments and requests for revision to the Pre-Award Schedule.
- 34.6.** Your failure to perform the following may result in the Bid being rejected as **non-responsive**:
1. meet with the City's project manager, if requested to do so, to discuss and respond to the City's comments regarding the Pre-Award Schedule,
 2. revise the Pre-Award Schedule as requested by the City within the specified 22 Working Days timeframe, or
 3. execute the first Phased Funding Schedule Agreement within a day after receipt.

35. ADDITIVE/DEDUCTIVE ALTERNATES:

- 35.1.** The additive/deductive alternates have been established to allow the City to compare the cost of specific portions of the Work with the Project's budget and enable the City to make decision prior to award. The award will be established as described in the Bid. The City reserves the right to award the Contract for the Base Bid only or the Base Bid plus any combination of Additive and Deductive Alternate(s).
- 35.2.** 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.

36. REQUIRED DOCUMENT SCHEDULE:

- 36.1.** The Bidder's attention is directed to the City's Municipal Code §22.0807(e), (3)-(5) for important information regarding grounds for debarment for failure to submit required documentation.
- 36.2.** 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	WHEN DUE	FROM	DOCUMENT TO BE SUBMITTED
1.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Bid
2.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Bid Bond
3.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Non-collusion Affidavit to be Executed By Bidder and Submitted with Bid under 23 USC 112 and PCC 7106
4.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Contractors Certification of Pending Actions
5.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Equal Benefits Ordinance Certification of Compliance
6.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Form AA35 - List of Subcontractors
7.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Form AA40 - Named Equipment/Material Supplier List
8.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Form AA45 - Subcontractors Additive/Deductive Alternate
9.	WITHIN 3 WORKING DAYS OF BID OPENING WITH GOOD FAITH EFFORT DOCUMENTATION	ALL BIDDERS	SLBE Good Faith Efforts Documentation
10.	WITHIN 3 WORKING DAYS OF BID OPENING WITH GOOD FAITH EFFORT DOCUMENTATION	ALL BIDDERS	Form AA60 – List of Work Made Available
11.	WITHIN 3 WORKING DAYS OF BID OPENING WITH GOOD FAITH EFFORT DOCUMENTATION	ALL BIDDERS	Proof of Valid DBE-MBE-WBE-DVBE Certification Status e.g., Certs.
12.	PRIOR TO PRE-CONSTRUCTION MEETING	LOW BIDDER	Contractor's Experience and Past Project Documentation. See section 500
13.	PRIOR TO PRE-CONSTRUCTION MEETING	LOW BIDDER	Manufacturer Certification per Section 500-1.1.2.1
14.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Phased Funding Schedule Agreement (when required)
15.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Pre-Award Schedule (Phased Funded Contracts Only)
16.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Names of the principal individual owners of the Apparent Low Bidder

ITEM	WHEN DUE	FROM	DOCUMENT TO BE SUBMITTED
17.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	If the Contractor is a Joint Venture: <ul style="list-style-type: none"> • Joint Venture Agreement • Joint Venture License
18.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Form BB05 - Work Force Report
19.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Contract Forms - Agreement
20.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Contract Forms - Payment and Performance Bond
21.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Certificates of Insurance and Endorsements
22.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Contractor Certification - Drug-Free Workplace
23.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Contractor Certification - American with Disabilities Act
24.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Contractors Standards - Pledge of Compliance

CONTRACT FORMS
AGREEMENT

CONTRACT FORMS AGREEMENT

CONSTRUCTION CONTRACT

This 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 **SEWER AND WATER GROUP 758**; Bid No. **K-13-5449-DBB-3**; in the amount of **Two Million Nine Hundred Forty-Eight Thousand Five Hundred Twenty-Seven Dollars and 00/100 (\$2,948,527.92)**, which is comprised of the Base Bid only.

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 Notice Inviting Bids and the Supplementary Special Provisions (SSP).
 - (d) That certain documents entitled **SEWER AND WATER GROUP 758**, on file in the office of the City Clerk as Document No. **B-00365/B-00074**, as well as all matters referenced therein.
2. Contractor shall perform and be bound by all the terms and conditions of this contract and in strict conformity therewith shall perform and complete in a good and workmanlike manner **SEWER AND WATER GROUP 758**, Bid Number **K-13-5449-DBB-3**, San Diego, California.
3. For such performances, the City shall pay to Contractor the amounts set forth at the times and in the manner and with such additions or deductions as are provided for in this contract, and Contractor shall accept such payment in full satisfaction of all claims incident to such performances.
4. No claim or suit whatsoever shall be made or brought by Contractor against any officer, agent, or employee of the City for or on account of anything done or omitted to be done in connection with this contract, nor shall any such officer, agent, or employee be liable hereunder.
5. This contract is effective as of the date that the Mayor or designee signs the agreement.

CONTRACT FORMS (continued)

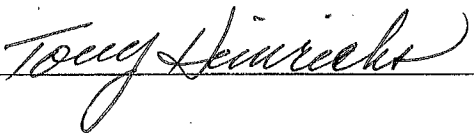
AGREEMENT

IN WITNESS WHEREOF, this Agreement is signed by the City of San Diego, acting by and through its Mayor or designee, pursuant to Municipal Code 22.3102(a)(1) authorizing such execution.

THE CITY OF SAN DIEGO

APPROVED AS TO FORM AND LEGALITY

Jan I. Goldsmith, City Attorney

By 

By 


Print Name: _____
Tony Heinrichs, Director, Public Works Department

Print Name: Pedro DeLara, Jr.
Deputy City Attorney

Date: 6/12/13

Date: 6/14/13

CONTRACTOR

By 

Print Name: DOMINIC J. BURTECH

Title: PRESIDENT & CEO

Date: 5/2/13

City of San Diego License No.: B1996002066

State Contractor's License No.: 718202

**CONTRACT/AGREEMENT
ATTACHMENTS**

EXECUTED IN TRIPLICATE
BOND NO. 2171054
PREMIUM: \$21,691.00

**Premium Is For Contract Term
And Is Subject To Adjustment
Based On Final Contract Price**

**CONTRACT FORMS (continued)
PERFORMANCE BOND AND LABOR AND MATERIALMEN'S BOND**

FAITHFUL PERFORMANCE BOND AND LABOR AND MATERIALMEN'S BOND:

Burtech Pipeline, Incorporated, a corporation, as principal, and NORTH AMERICAN SPECIALTY 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 Two Million Nine Hundred Forty-Eight Thousand Five Hundred Twenty-Seven Dollars and ⁹²/₁₀₀ (\$2,948,527.92) for the faithful performance of the annexed contract, and in the sum of Two Million Nine Hundred Forty-Eight Thousand Five Hundred Twenty-Seven Dollars and ⁹²/₁₀₀ (\$2,948,527.92) for the benefit of laborers and materialmen designated below.

Conditions:

If the Principal shall faithfully perform the annexed contract SEWER AND WATER GROUP 758, Bid Number K-13-5449-DBB-3, San Diego, California then the obligation herein with respect to a faithful performance shall be void; otherwise it shall remain in full force.

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

The obligation herein with respect to laborers and materialmen shall inure to the benefit of all persons, firms and corporations entitled to file claims under the provisions of Chapter 3 of Division 5 of Title I of the Government Code of the State of California or under the provisions of Section 3082 et seq. 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.

CONTRACT ATTACHMENT (continued)
PERFORMANCE BOND AND LABOR AND MATERIALMEN'S BOND

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

Dated APRIL 29, 2013

Approved as to Form and Legality

BURTECH PIPELINE, INCORPORATED

Principal

By 

DOMINIC J. BURTECH, JR., PRESIDENT

Printed Name of Person Signing for Principal

Jan I. Goldsmith, City Attorney

By 

Deputy City Attorney

NORTH AMERICAN
SPECIALTY INSURANCE COMPANY

Surety

By 

MARK D. IATAROLA, Attorney-in-fact

Approved:

6 HUTTON CENTRE DRIVE, SUITE 850

Local Address of Surety

By 

Tony Heinrichs, Director, Public Works Department

SANTA ANA, CA 92707

Local Address (City, State) of Surety

714/550-7799

Local Telephone No. of Surety

**Premium Is For Contract Term
And Is Subject To Adjustment
Based On Final Contract Price**

Premium \$ 21,691.00

Bond No. 2171054

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

STATE OF CALIFORNIA

County of SAN DIEGO }

On 4/29/2013 before me, MICHELLE M. BASUIL, NOTARY PUBLIC,
Date 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.

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 *Michelle M. Basuil*
Signature of Notary Public



Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: PERFORMANCE BOND AND LABOR AND MATERIALMEN'S BOND

Document Date: 4/29/2013 Number of Pages: 2

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: MARK D. IATAROLA

- Individual
- Corporate Officer — Title(s): _____
- Partner — Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____

RIGHT THUMBPRINT OF SIGNER

Top of thumb here

Signer Is Representing:

Signer's Name: _____

- Individual
- Corporate Officer — Title(s): _____
- Partner — Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____

RIGHT THUMBPRINT OF SIGNER

Top of thumb here

Signer Is Representing:

NAS SURETY GROUP

NORTH AMERICAN SPECIALTY INSURANCE COMPANY
WASHINGTON INTERNATIONAL INSURANCE COMPANY

GENERAL POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, THAT North American Specialty Insurance Company, a corporation duly organized and existing under laws of the State of New Hampshire, and having its principal office in the City of Manchester, New Hampshire, and Washington International Insurance Company, a corporation organized and existing under the laws of the State of New Hampshire and having its principal office in the City of Schaumburg, Illinois, each does hereby make, constitute and appoint:

JOHN G. MALONEY, HELEN MALONEY, MICHELLE M. BASUIL,
GLEND A. J. GARDNER, MARK D. IATAROLA and DEBORAH D. DAVIS

JOINTLY OR SEVERALLY

Its true and lawful Attorney(s)-in-Fact, to make, execute, seal and deliver, for and on its behalf and as its act and deed, bonds or other writings obligatory in the nature of a bond on behalf of each of said Companies, as surety, on contracts of suretyship as are or may be required or permitted by law, regulation, contract or otherwise, provided that no bond or undertaking or contract or suretyship executed under this authority shall exceed the amount of:

FIFTY MILLION (\$50,000,000.00) DOLLARS

This Power of Attorney is granted and is signed by facsimile under and by the authority of the following Resolutions adopted by the Boards of Directors of both North American Specialty Insurance Company and Washington International Insurance Company at meetings duly called and held on the 9th of May, 2012:

"RESOLVED, that any two of the Presidents, any Managing Director, any Senior Vice President, any Vice President, any Assistant Vice President, the Secretary or any Assistant Secretary be, and each or any of them hereby is authorized to execute a Power of Attorney qualifying the attorney named in the given Power of Attorney to execute on behalf of the Company bonds, undertakings and all contracts of surety, and that each or any of them hereby is authorized to attest to the execution of any such Power of Attorney and to attach therein the seal of the Company; and it is

FURTHER RESOLVED, that the signature of such officers and the seal of the Company may be affixed to any such Power of Attorney or to any certificate relating thereto by facsimile, and any such Power of Attorney or certificate bearing such facsimile signatures or facsimile seal shall be binding upon the Company when so affixed and in the future with regard to any bond, undertaking or contract of surety to which it is attached."



By [Signature]
Steven P. Anderson, Senior Vice President of Washington International Insurance Company
& Senior Vice President of North American Specialty Insurance Company



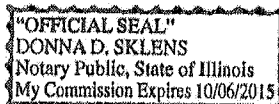
By [Signature]
David M. Layman, Vice President of Washington International Insurance Company
& Vice President of North American Specialty Insurance Company

IN WITNESS WHEREOF, North American Specialty Insurance Company and Washington International Insurance Company have caused their official seals to be hereunto affixed, and these presents to be signed by their authorized officers this 10th day of December, 2012.

North American Specialty Insurance Company
Washington International Insurance Company

State of Illinois
County of Cook ss:

On this 10th day of December, 2012, before me, a Notary Public personally appeared Steven P. Anderson, Senior Vice President of Washington International Insurance Company and Senior Vice President of North American Specialty Insurance Company and David M. Layman, Vice President of Washington International Insurance Company and Vice President of North American Specialty Insurance Company, personally known to me, who being by me duly sworn, acknowledged that they signed the above Power of Attorney as officers of and acknowledged said instrument to be the voluntary act and deed of their respective companies.



[Signature]
Donna D. Sklens, Notary Public

I, Jeffrey Goldberg, the duly elected Assistant Secretary of North American Specialty Insurance Company and Washington International Insurance Company, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney given by said North American Specialty Insurance Company and Washington International Insurance Company, which is still in full force and effect.

IN WITNESS WHEREOF, I have set my hand and affixed the seals of the Companies this 29th day of APRIL, 2013.

[Signature]
Jeffrey Goldberg, Vice President & Assistant Secretary of
Washington International Insurance Company & North American Specialty Insurance Company

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

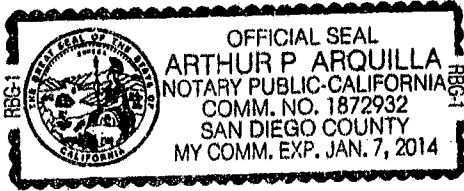
State of California,

County of San Diego }

On 5/2/13 before me, Arthur P. Arquilla, Notary Public
Date Here Insert Name and Title of the Officer

personally appeared Dominic Butech
Name(s) of Signer(s)

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



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

WITNESS my hand and official seal.

Signature [Handwritten Signature]
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: _____

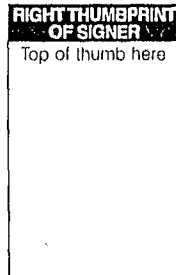
Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____

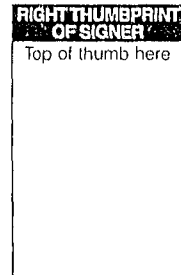
- Individual
- Corporate Officer — Title(s): _____
- Partner — Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____



Signer Is Representing: _____

Signer's Name: _____

- Individual
- Corporate Officer — Title(s): _____
- Partner — Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____



Signer Is Representing: _____

CONTRACTOR CERTIFICATION

DRUG-FREE WORKPLACE

PROJECT TITLE: SEWER AND WATER GROUP 758

I hereby certify that I am familiar with the requirements of San Diego City Council Policy No. 100-17 regarding Drug-Free Workplace as outlined in the WHITEBOOK, Section 7-13.3, "Drug-Free Workplace", of the project specifications, and that;

BURTECH PIPELINE INCORPORATED

(Name under which business is conducted)

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.

Signed _____

Printed Name _____

Title _____


DOMINIC J. BURTECH

PRESIDENT & CEO

CONTRACTOR CERTIFICATION

AMERICAN WITH DISABILITIES ACT (ADA) COMPLIANCE CERTIFICATION

PROJECT TITLE: SEWER AND WATER GROUP 758

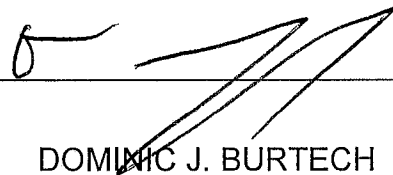
I hereby certify that I am familiar with the requirements of San Diego City Council Policy No. 100-4 regarding the American With Disabilities Act (ADA) outlined in the WHITEBOOK, Section 7-13.2, "American With Disabilities Act", of the project specifications, and that;

BURTECH PIPELINE INCORPORATED

(Name under which business is conducted)

has in place a 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.

Signed



Printed Name

DOMINIC J. BURTECH

Title

PRESIDENT & CEO

CONTRACTOR CERTIFICATION

CONTRACTOR STANDARDS – PLEDGE OF COMPLIANCE

PROJECT TITLE: SEWER AND WATER GROUP 758

I declare under penalty of perjury that I am authorized to make this certification on behalf of BURTECH PIPELINE INC., as Contractor, that I am familiar with the requirements of City of San Diego Municipal Code § 22.3224 regarding Contractor Standards as outlined in the WHITEBOOK, Section 7-13.4, ("Contractor Standards"), of the project specifications, and that Contractor has complied with those requirements.

I further certify that each of the Contractor's subcontractors whose subcontracts are greater than \$50,000 in value has completed a Pledge of Compliance attesting under penalty of perjury of having complied with City of San Diego Municipal Code § 22.3224.

Dated this 2nd Day of May, 2013.

Signed  _____

Printed Name DOMINIC J. BURTECH

Title PRESIDENT & CEO

AFFIDAVIT OF DISPOSAL

WHEREAS, on the _____ DAY OF _____, _____, the undersigned entered into and executed a contract with the City of San Diego, a municipal corporation, for:

SEWER AND WATER GROUP 758

(Project)

as particularly described in said contract and identified as Bid No. **K-13-5449-DBB-3**; SAP No. (WBS/CC/IO) **B-00365 / B-00074**; 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 _____, 2_____.

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

PHASED FUNDING SCHEDULE AGREEMENT

Check one:

- First Phased Funding Schedule Agreement
- Final Phased Funding Schedule Agreement

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

BID NUMBER: K-13-5449-DBB-3

CONTRACT TITLE: SEWER AND WATER GROUP 758

CONTRACTOR: Burtech Pipeline Incorporated

Funding Phase	Phase Description	Phase Start	Phase Finish	Not-to-Exceed Amount
1	Mobilization, construction of sewer and water mains and appurtenances	N.T.P.	7/31/2013	\$1,695,979.92
2	Construction of sewer main, appurtenances, all remaining items of work per contract and demobilization	8/1/2013	Contract Completion date	2,445,264
Total				\$4,141,243.92

Notes:

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

CITY OF SAN DIEGO
 By: Mahyar Navizi
 Name: Mahyar Navizi
 Project Manager

CONTRACTOR
 By: [Signature]
 Name: DOMINIC J. BURTECH

Department Name: Public Works – E&CP

Title: President & CEO

Date: 05/23/2013

Date: 5/24/13

-END OF PHASED FUNDING SCHEDULE AGREEMENT

SUPPLEMENTARY SPECIAL PROVISIONS (SSP)

SUPPLEMENTARY SPECIAL PROVISIONS

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

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

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

1-2 TERMS AND DEFINITIONS.

Normal Working Hours. To the City Supplements, ADD the following:

The Normal Working Hours are 8:30 AM to 3:30 PM.

SECTION 2 - SCOPE AND CONTROL OF WORK

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

1. You must perform, with your own organization, Contract work amounting to at least 50% of the base bid alone or base bid and any additive or deductive alternate(s) that together when added or deducted form the basis of award.
2. The self performance percentage requirement will be waived for contracts when a “B” License is required or allowed.

2-7 SUBSURFACE DATA. ADD the following:

1. In preparation of the Contract Documents, the designer has relied upon the following reports of explorations and tests of subsurface conditions at the Work Site:
 1. Report of Geotechnical Evaluation dated August 4, 2010 by Southern California Soil & Testing.
2. The report listed above is available for review by contacting the City Contact or visiting:

<ftp://ftp.sannet.gov/OUT/ECP/2-7%20SUBSURFACE%20DATA/>

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

Other adjacent City project is scheduled for construction for the same time period in the vicinity of Elliot Street. See Appendix "E" for approximate location. Coordinate the Work with the adjacent project as listed below:

- a) Sewer Group 723, Bijan Shakiba - Project Manager, (619) 566-5191

SECTION 4 - CONTROL OF MATERIALS

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

You must submit your list of proposed substitutions for “an equal” (“or equal”) item(s) **no later than 5 Working Days after the determination of the Apparent Low Bidder** and on a City form when provided by the City.

SECTION 6 - PROSECUTION, PROGRESS AND ACCEPTANCE OF WORK

6-7 Time of Completion. ADD the following:

For the following streets, the total time allowed for the completion of Work shall not exceed 10 Working Days per 500’ of pipeline installation:

1. Adrian St. and West Point Loma Blvd. Intersection.

SECTION 7 - RESPONSIBILITIES OF THE CONTRACTOR

7-3 LIABILITY INSURANCE. DELETE in its entirety and SUBSTITUTE with the following:

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

7-3.1 Policies and Procedures.

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

7-3.2 Types of Insurance.

7-3.2.1 Commercial General Liability Insurance.

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

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

7-3.2.2 Commercial Automobile Liability Insurance.

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

7-3.2.3 Contractors Pollution Liability Insurance.

1. You must procure and maintain at your expense or require Subcontractor, as described below to procure and maintain, the Contractors Pollution Liability Insurance including contractual liability coverage to cover liability arising out of cleanup, removal, storage, or handling of hazardous or toxic chemicals, materials, substances, or any other pollutants by you or any Subcontractor in an amount not less than \$2,000,000 limit for bodily injury and property damage.
2. All costs of defense must be outside the limits of the policy. Any such insurance provided by Subcontractor instead of you must be approved separately in writing by the City.

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

7-3.2.4 Contractors Hazardous Transporters Pollution Liability Insurance.

1. You must provide at your expense or require Subcontractor to provide, as described below Contractors Hazardous Transporters Pollution Liability Insurance including contractual liability coverage to cover liability arising out of transportation of hazardous or toxic, materials, substances, or any other pollutants by you or any Subcontractor in an amount not less than \$2,000,000 limit per occurrence/aggregate for bodily injury and property damage.
2. All costs of defense must be outside the limits of the policy. The deductible must not exceed \$25,000 per claim. Any such insurance provided by a subcontractor instead of you must be approved separately in writing by the City.
3. For approval of the substitution of Subcontractor's insurance the Contractor shall certify that all activities for which Contractors Hazardous Transporters Pollution Liability Insurance will provide coverage will be performed exclusively by the Subcontractor providing the insurance.
4. Contractual liability must include coverage of tort liability of another party to pay for bodily injury or property damage to a third person or organization. There must be no endorsement or modification of the coverage limiting the scope of coverage for either "insured vs. insured" claims or contractual liability. Occurrence based policies must be procured before the Work commences and must be maintained for the duration of this contract. Claims Made policies must be procured before the Work commences, must be maintained for the duration of this contract, and must include a 12 month extended Claims Discovery Period applicable to this contract or the existing policy or policies must continue to be maintained for 12 months after the completion of the Work under this contract without advancing the retroactive date.

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

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

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

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

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

7-3.5 Policy Endorsements.

7-3.5.1 Commercial General Liability Insurance

7-3.5.1.1 Additional Insured.

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

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

7-3.5.1.3 Project General Aggregate Limit.

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

7-3.5.2 Commercial Automobile Liability Insurance.

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

7-3.5.3 Contractors Pollution Liability Insurance Endorsements.

7-3.5.3.1 Additional Insured.

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

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

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

7-3.5.4 Contractors Hazardous Transporters Pollution Liability Insurance Endorsements.

7-3.5.4.1 Additional Insured.

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

7-3.5.4.2 Primary and Non-Contributory Coverage. The policy or policies must be endorsed to provide that the insurance afforded by the Contractors Pollution Liability Insurance policy or policies is primary to any insurance or self-insurance of the City and its elected officials, officers, employees, agents and representatives with respect to operations including the completed operations of the Named Insured. Any insurance maintained by the City and its elected officials, officers, employees, agents and representatives must be in excess of your insurance and must not contribute to it.

7-3.5.4.3 Severability of Interest. For Contractors Hazardous Transporters Pollution Liability Insurance, the policy or policies must provide that your insurance must apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability and must provide cross-liability coverage.

7-3.6 Deductibles and Self-Insured Retentions. You must pay for all deductibles and self-insured retentions. You must disclose deductibles and self-insured retentions to the City at the time the evidence of insurance is provided.

7-3.7 Reservation of Rights. The City reserves the right, from time to time, to review your insurance coverage, limits, deductibles and self-insured retentions to determine if they are acceptable to the City. The City will reimburse you, without overhead, profit, or any other markup, for the cost of additional premium for any coverage requested by the Engineer but not required by this contract.

7-3.8 Notice of Changes to Insurance. You must notify the City 30 days prior to any material change to the policies of insurance provided under this contract.

7-3.9 Excess Insurance. Policies providing excess coverage must follow the form of the primary policy or policies e.g., all endorsements.

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

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

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

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

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

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

7-4.1.1 Waiver of Subrogation.

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

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

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

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

SECTION 8 - FACILITIES FOR AGENCY PERSONNEL

8-2 FIELD OFFICE FACILITIES. To the City Supplements, DELETE in its entirety.

SECTION 9 - MEASUREMENT AND PAYMENT

9-3.2.5 Withholding of Payment. To the City Supplements, item i), DELETE in its entirety and SUBSTITUTE with the following:

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

ADD:

9-3.7 Compensation Adjustments for Price Index Fluctuations. This Contract is not subject to the provisions of The WHITEBOOK for Compensation Adjustments for Price Index Fluctuations for the paving asphalt.

SECTION 203 – BITUMINOUS MATERIALS

203-15 RUBBER POLYMER MODIFIED SLURRY (RPMS). RPMS shall be used on this contract.

SECTION 207 – PIPE

207-27 **FUSIBLE NON-PRESSURE POLYVINYLCHOLORIDE PIPE.** DELETE in its entirety.

SECTION 209 – STREET LIGHTING AND TRAFFIC SIGNAL MATERIALS

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

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

SECTION 300 – EARTHWORK

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

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

SECTION 302 – ROADWAY SURFACING

302-3 **Preparatory Repair Work.** To the City Supplement, DELETE in its entirety and SUBSTITUTE with the following:

302-3 **Preparatory Repair Work.**

1. Prior to roadway resurfacing or the application of slurry, the Contractor shall complete all necessary preparation and repair work to the road segment e.g., tree trimming, weed spray, weed abatement, crack sealing, asphalt repair, hump removal, miscellaneous asphalt patching, removal of raised pavement markers, removal of pavement markings, etc. and as specified in the Special Provisions.
2. Preparatory work shall include, but not be limited to, tree trimming, weed spray, weed abatement, crack sealing, asphalt repair i.e., mill and pave, hump removal, miscellaneous asphalt patching, removal of raised pavement markers, removal of pavement markings, etc.
3. The Contractor shall repair areas of distressed asphalt concrete pavement by milling or removing damaged areas of pavement to a minimum depth of 2” for Residential streets, and a minimum depth of 3” for all others to expose firm and unyielding pavement. The Contractor shall prepare subgrade as needed and install a minimum of 2” for residential streets, and a minimum of 3” for all others, of compacted asphalt concrete pavement over compacted native material as directed by the Engineer.

4. If, in order to achieve the minimum specified depth, the base material is exposed, the material shall be compacted to 95% relative compaction to a depth 10" below the finished grade (dig out). Compaction tests shall be made to ensure compliance with the specifications. The Engineer will determine when and where the test will occur. The City will pay for the soils testing required by the Engineer, which meets the required compaction. The Contractor shall reimburse the City for the cost of retesting failing compaction tests. If additional base material is required, the Contractor shall use Crushed Aggregate Base in accordance with 200-2.2, "Crushed Aggregate Base."
5. Recycled base material shall conform to Crushed Miscellaneous Base Material in accordance with 200-2.4.
6. Prior to replacing asphalt, the area shall be cleaned by removing all loose and damaged material, moisture, dirt, and other foreign matter and shall be tack coated in accordance with 302-5.4 "Tack Coat."
7. The Contractor shall install new asphalt within the repair area or for patches in accordance with 302-5, "ASPHALT CONCRETE PAVEMENT." Asphalt concrete shall be C2-PG 64-10 in compliance with 400-4, "ASPHALT CONCRETE."
8. No preparatory asphalt work shall be done when the atmospheric temperature is below 50 °F or during unsuitable weather.
9. Following the asphalt placement, the Contractor shall roll the entire area of new asphalt in both directions at least twice. The finished patch shall be level and smooth in compliance with 302-5.6.2 "Density and Smoothness." After placement and compaction of the asphalt patch, the Contractor shall seal all finished edges with a 4" wide continuous band of SS-1H.
10. The minimum dimension for each individual repair shall be 4' x 4' and shall be subject to the following conditions:
 - a) If the base material is exposed to achieve the required minimum removal thickness, the base material shall be prepared conforming to 301-1, "SUBGRADE PREPARATION."
 - b) When additional base material is required, then the contractor shall use Crushed Aggregate Base in accordance with 200-2.2 "Crushed Aggregate Base." Recycled base material shall conform to Crushed Miscellaneous Base Material in accordance with 200-2.4.
 - c) The Contractor may use grinding as a method for removal of deteriorated pavement when the areas indicated for removal are large enough (a minimum of the machine drum width) and when approved by the Engineer.
 - d) For both scheduled and unscheduled base repairs, failed areas may be removed by milling or by excavation provided that the edges are cut cleanly with a saw. The areas shall be cleaned and tack coated in accordance with 302-5.4, "Tack Coat" before replacing the asphalt. The areas for scheduled repairs have been marked on the street.

302-3.1 Asphalt Patching.

1. Asphalt patching shall consist of patching potholes, gutter-line erosion, and other low spots in the pavement that are deeper than ½” per 302-5.6.2, “Density and Smoothness.” These areas are generally smaller and more isolated than those areas in need of mill and pave.
2. The areas requiring patching have been identified in the Contract Documents, marked on the streets, or as directed by the Engineer. The Contractor shall identify any new areas that may require patching prior to slurry work to ensure the smoothness and quality of the finished product.
3. The Contractor shall identify and repair any areas that may require patching, prior to the placement of slurry seal for smooth finished product.
4. Asphalt overlay shall not be applied over deteriorated pavement. Preparatory asphalt work shall be completed and approved by the Engineer before proceeding with asphalt overlay.
5. The Contractor shall remove distressed asphalt pavement either by saw cutting or milling, to expose firm and unyielding pavement; prepare subgrade (as needed); and install compacted asphalt concrete pavement over compacted native material as directed by the Engineer.
6. Prior to replacing asphalt, the area shall be cleaned and tack coated per 302-5.4, “Tack Coat”.
7. Following the asphalt placement, the Contractor shall roll the entire patch in both directions covering the patch at least twice.
8. After placement and compaction of the asphalt patch, the Contractor shall seal all finished edges with a 4” wide continuous band of SS-1H.
9. Base repairs shall not exceed 20% RAP in content.

302-3.2 Payment.

1. Payment for replacement of existing pavement when required shall be included in the unit bid price for Asphalt Pavement repair for the total area replaced and no additional payment shall be made regardless of the number of replacements completed. No payment shall be made for areas of over excavation or outside trench areas in utility works unless previously approved by the Engineer. No payment for pavement replacement will be made when the damage is due to the Contractor’s failure to protect existing improvements. The Contractor shall reimburse the City for the cost of retesting all failing compaction tests.
2. The areas and quantities shown on the road segments and in appendices are given only for the Contractor’s aid in planning the Work and preparing Bids. The Engineer will designate the limits to be removed and these designated areas shall be considered to take precedent over the area shown in an Appendix to the Contract Documents. The quantities shown in the appendices are based on a street assessment survey and may vary.

3. At the end of each day, the Contractor shall submit to the Engineer an itemized list of the asphalt pavement repair work completed. The list shall include the location of the work and the exact square footage of the repair.
4. Preparatory repair work and tack coating will be paid at the Contract unit price per ton for Asphalt Pavement Repair. No payment shall be made for areas of over excavation unless previously approved by the Engineer.
5. Milling shall be included in the Bid item for Asphalt Pavement Repair unless separate Bid item has been provided.
6. Payment for miscellaneous asphalt patching shall be included in the Contract unit price for slurry and no additional payment shall be made therefore.

302-5.1.1 Damaged AC Pavement Replacement. To the City Supplement, DELETE in its entirety.

302-5.1.2 Measurement and Payment. To the City Supplement, DELETE in its entirety.

SECTION 306 – UNDERGROUND CONDUIT CONSTRUCTION

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

OLD SECTION NUMBER	TITLE	NEW SECTION NUMBER
306-1.8	House Connection Sewer (Laterals) and Cleanouts	306-1.9
306-1.7.1	Payment	306-1.9.1
306-1.7.2	Sewer Lateral with Private Replumbing	306-1.9.2
306-1.7.2.1	location	306-1.9.2-1
306-1.7.2.2	Permits	306-1.9.2-2
306-1.7.2.3	Submittals	306-1.9.2-3
306-1.7.2.4	Trenchless Construction	306-1.9.2-4
306-1.7.2.5	Payment	306-1.9.2-5
306-1.7.3.6	Private Pump Installation	306-1.9.2-6
306-1.7.3.7	Payment	306-1.9.2-7

306-1.6 Basis of Payment for Open Trench Installations. ADD the following:

Payment for imported backfill when the Contractor elects to import material from a source outside the project limits and when authorized by the Engineer shall be included in the Bid unit price for Imported Backfill. The price shall include the removal and disposal of unsuitable materials.

306-22 Pipe Fusion. DELETE in its entirety.

ADD:

306-23 Pressure Reducing Station.

The pressure reducing station will be constructed per the requirements of the construction plans as well as the requirements found in Appendix K of the specifications. The Lump Sum cost will cover all material, labor and equipment for all components of the station as well as the panels, scada and miscellaneous electrical components as specified in the contract documents.

SECTION 500 – PIPELINE

500-1.1.5 Video Inspection. To the City Supplement, after the last paragraph, ADD the following:

During the pre-installation video the contractor must identify all existing protruding laterals with the existing main and trim them flush to the main prior to rehabilitation. The cost of trimming the existing laterals will be included in the pipe rehabilitation bid item.

SECTION 600 – WORK INVOLVING THE CITY FORCES

600-1.2.1.2 High-lining Removed by Contractor. To the City Supplement, DELETE paragraph a), and SUBSTITUTE with the following:

a) When directed by the Engineer the Contractor shall transfer the water services and remove the high-line materials. The Contractor will pickup and deliver all the City high-line materials to Water Operations Division at: Chollas Station, 2797 Caminito Chollas, San Diego, CA 92105.

600-1.2.1.3 Payment. To the City Supplement, DELETE paragraph c) and SUBSTITUTE with the following:

c) If high-lining by Contractor is awarded under “Additive Alternate”, payment for high-lining removal and water service transfers by Contractor shall be included in the unit bid price for “High-lining Installation and Dismantling by the Contractor”. Otherwise, if City Forces install the high-line system and the Contractor is requested to transfer the water services, remove the high-line and deliver to the City’s designated location, payment shall then be made in accordance with the unit bid price for “High-lining Removed by Contractor” and “Water Service Transfer from High-line” in the base bid.

SECTION 701 – WATER POLLUTION CONTROL

701-13.3.8 BMP Inspections, Maintenance and Repair. To the City Supplement, ADD the following:

5. Contractor will implement efforts beyond the standard inlet protection requirements to capture sediment before it enters the storm drain at Pollack St. and West Point Loma Blvd and maintain the storm drain inlet protection on a daily basis for these 2 streets.

SECTION 703 – ENCOUNTERING OR RELEASING HAZARDOUS SUBSTANCES

703-1 GENERAL. To the City Supplement, ADD the following:

11. The City reserves the right to delete/deduct Work related to Section 703 if the Responsible Party is found. The Contractor will not be entitled to any compensation for work deleted/deducted from this Section.

703-8 EMPLOYEE TRAINING. To the City Supplement, ADD the following:

3. The allowance bid item for Hazardous Waste Operations and Emergency Response (HAZWOPER) Certificate will cover training, fees, and all expenses necessary to obtain the certification for all the contractors' and subcontractors' crews as well as required city personnel required to obtain this certificate, no additional payment will be made.

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

1. The payment for waste management shall be included in the applicable Bid items as follows:
 - a) Preparation of Hazardous Waste Management Plan and Reporting (LS).
 - b) Monitoring, Testing, Sampling, Site Storage, and Handling of Soils Containing RCRA Hazardous Waste (TON).
 - c) Loading, Transportation, and Disposal of soils containing RCRA Hazardous Waste (TON).
 - d) Monitoring of Petroleum Contaminated Soil (HOUR).
 - e) Testing, Sampling, Site Storage and Handling of Petroleum Contaminated Soil (TON).
 - f) Loading, Transportation, and Disposal of Petroleum Contaminated Soil (TON).
 - g) Monitoring, Testing, Sampling, Site Storage, and Handling of Soils Containing NON-RCRA Hazardous Waste (TON).
 - h) Testing, Sampling, Site Storage, Handling, Transportation and Disposal of Containerized RCRA Hazardous Waste (55 GAL DRUMS).

- i) Testing, Sampling, Site Storage, Handling, Transportation and Disposal of Containerized Non-RCRA Hazardous Waste (55 GAL DRUMS).
- j) Loading, Transportation, and Disposal of Soils Containing NON-RCRA Hazardous Waste (TON).
- k) Testing, Sampling, Site Storage, Handling, Transportation and Recycling/Disposal of Regulated Waste (TON).
- l) Testing, Sampling, Site Storage, Handling, Transportation and Disposal of RCRA Hazardous Waste contamination From the Treatment of Petroleum Contaminated Ground Water (GAL).
- m) Testing, Sampling, Site Storage, Handling, Transportation and Disposal of NON-RCRA Hazardous Waste contamination From the Treatment of Petroleum Contaminated Ground Water (GAL).
- n) HAZWOPER Training and Certification for City Staff.

SECTION 705 – WATER DISCHARGES

- 705-2.6.3** **Community Health and Safety Plan.** To the City Supplements, DELETE in its entirety and SUBSTITUTE with the following:
- 705-2.6.3** **Community Health and Safety Plan.** See 703-2, “Community Health and Safety Plan.”
- 705-2.6.1** **General.** Paragraph (3), CORRECT reference to Section 803 to read “Section 703.”

SECTION 707 – RESOURCE DISCOVERIES

ADD:

707-1.1 **Environmental Document.**

The City of San Diego Environmental Analysis Section (EAS) of the Development Services Department has prepared **Addendum To Mitigation Negative Declaration for Sewer and Water Group 758**, Project No. **230024**, as referenced in the Contract Appendix. You must comply with all requirements of the Mitigation Negative Declaration as set forth in the Contract Appendix.

Compliance with the City’s environmental document is included in the various Bid items, unless a bid item has been provided.

707-2 Archeological and Native American Monitoring Program. To the City Supplement, ADD the following:

The City will retain a qualified archaeologist for this contract. The Contractor shall coordinate its activities and Schedule with the activities and schedules of the archaeologist monitor. Notify the Engineer before noon of the working day before monitoring is required. See 2-11, “INSPECTION” for details.

707-3 Paleontological Monitoring Program. To the City Supplements, ADD the following:

The City will retain a qualified paleontologist for this contract. Coordinate its 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 2-11, “INSPECTION” for details.

END OF SUPPLEMENTARY SPECIAL PROVISIONS (SSP)

**SUPPLEMENTARY SPECIAL PROVISIONS (SSP) -
APPENDICES**

APPENDIX A

Addendum To Mitigated Negative Declaration



**ADDENDUM TO
MITIGATED NEGATIVE DECLARATION No. 255100
SCH No. 2011091045**

Project No. 230024

SUBJECT: Sewer and Water Group 758 Development Services Department Approval for the replacement of approximately 6,950 linear feet (LF) of existing 8-inch vitrified clay (VC) sewer pipe with 8-inch polyvinyl chloride (PVC) sewer pipes in existing trenches, replacement of approximately 5,007 linear feet (LF) of existing 8-inch vitrified clay (VC) sewer pipe with 8-inch polyvinyl chloride (PVC) sewer pipes in new alignments, installation of 1,055 linear feet (LF) of new 8-inch diameter sewer pipes in new alignments, rehabilitation of 1,463 LF of existing 8-inch diameter sewer mains utilizing trenchless methods, and abandonment of 5,965 LF of 8-inch sewer mains. The project would also install approximately 272 LF of 12-inch and 400 LF of 16-inch cast iron (CI) water mains including one pressure reducing station. The project's total linear footage is approximately 15,147 feet. Additional improvements would include new curb ramps, replacement and rehabilitation of sewer and water laterals, street resurfacing, installation and abandonment of manholes and the construction of an underground Pressure Regulator Station (PRS) measuring 13.5'x7.5' (101.25 square-feet) and at approx. 7.5 ft. deep at the intersection of West Point Loma Blvd and Adrian Street approximately 190 feet to the west.

The project is located within the Peninsula and Midway-Pacific Highway Community Plan areas. The following streets and adjoining alleyways would be affected by the project: West Point Loma Boulevard, Adrian Street, Bob Street, Polack Street, Worden Street, Nipoma Place, Nipoma Street, Elliot Street, Kingsley Street, Kemper Court, Larga Circle, Caminito Zocalo, Caminito Dehesa, Caminito Umbral, Poinsettia Street and Curtis Street within the City and County of San Diego. These streets are not included on any government code listings of hazardous waste sites. **Applicant:** City of San Diego, Engineering and Capital Projects, Right-of-Way Design Division.

I. PROJECT DESCRIPTION:

Two methods of construction would be employed to install the new and replacement sewer and water mains and appurtenances: (1) open trench method and (2) trenchless technology. The trench depth for sewer mains would vary from 4-20 feet deep and 5-6 feet deep for water mains depending on the topography of the area. The widths of the trenches would be approximately 3-5 feet wide. Other components of the project would include abandonment of sewer main and manholes and potholing. Abandonment would involve plugging both ends of the existing pipe with concrete via existing manholes and filling the main and manholes with slurry or grout, which would not disturb the surface or subsurface, and

removal of the top portion of the manhole is removed and paved over. Potholing is employed to verify the reconnection of sewer laterals to mains or to verify utility crossings. Other improvements will consist of the installation of curb ramps, manholes, and new pavement/slurry.

All work would occur within the public right-of-way (ROW), alleys and existing sewer and water easements. Activated work hours would occur during the daytime, Monday through Friday. 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 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*.

II. ENVIRONMENTAL SETTING:

The project would occur within the developed public right-of-way, alleys and existing sewer and water easements located within the Peninsula and Midway-Pacific Highway Community Plan areas. Surrounding land uses include commercial and single-unit and multiple-unit residential developments. A portion of the project along West Point Loma Boulevard is located adjacent to the Famosa Sleugh, which contains the City's Multi-Habitat Planning Area.

The following streets and adjoining alleyways would be affected by the project: West Point Loma Boulevard, Adrian Street, Bob Street, Polack Street, Worden Street, Nipoma Place, Nipoma Street, Elliot Street, Kingsley Street, Kemper Court, Larga Circle, Caminito Zocalo, Caminito Dehesa, Caminito Umbral, Poinsettia Street and Curtis Street within the City and County of San Diego (see Location Map).

III. PROJECT BACKGROUND:

A Citywide Pipelines Projects Mitigated Negative Declaration (MND) No. 255100 was prepared by the City of San Diego's Environmental Analysis Section (EAS) and was certified by City Council on November 30, 2011 (resolution number 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 128.036(b) all addenda for environmental documents certified more than 3 years before the date of application shall be distributed for public review for 14 calendar days along with the previously certified environmental document. Therefore this addendum is not being distributed for a 14 calendar day public review.

Historical Resources (Archaeology)

MND No. 255100 analyzed historical resources in relation to pipeline projects and determined that if after a thorough review of the archaeological data no direct impacts were identified to known archaeological sites then the project could addend the MND. A record search of the California Historic Resources Information System (CHRIS) digital database was reviewed to determine presence or absence of potential resources within the project alignments. No archaeological resources were identified within the project areas. However, Sewer and Water Group Job 758 is located on the City's Historic Sensitivity Map and would require archaeological monitoring in case of unexpected discoveries. Compliance with the Mitigation, Monitoring and Reporting Program would reduce all potential impacts to Historical Resources to below a level of CEQA significance.

Paleontological Resources

MND No. 255100 analyzed historical 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 underlain by artificial fill, Bay Point Formation and Mount Soledad Formation. With respect to paleontological fossil resource potential, Bay Point Formation is assigned a high sensitivity and Mount Soledad Formation a moderate sensitivity rating. Based upon the sensitivity of the affected formations and the proposed excavation depths, construction of Sewer and Water Group Job 758 could result in significant impacts to paleontological resources. To reduce this impact to below a level of significance, excavation within previously undisturbed formations at a depth of 10 or more feet 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.

Land Use (MSCP/MHPA Land Use Adjacency)

As analyzed in MND No. 255100 near-term and/or future pipeline projects located in close proximity to or adjacent to the City's Multi-Habitat Planning Area (MHPA), but not within the MHPA could have significant impacts to Land Use and indirect impacts to biological resources. The MHPA Land Use Adjacency guidelines were incorporated into the Mitigation, Monitoring and Reporting Program (MMRP) for MND No. 255100 to mitigate for impacts to the MHPA and to indirect impacts to biological resources.

As described in the Environmental Setting a portion of the proposed project would be located in proximity to the MHPA. This component of the project is located at the intersection of Adrian Street and West Point Loma Boulevard and would replace existing water pipe. A PRS located approximately 190 feet west of this intersection, on West Point Loma Boulevard, would also be constructed. All of this work would be located in the developed public ROW.

Because the Sewer and Water Group project would be located within 100 feet of the MHPA a potential conflict could occur with the MSCP Subarea Plan resulting in impacts to Land Use. However, with the implementation of the MHPA Land Use Adjacency Guidelines as required in MND No. 255100 impacts to Land Use and indirect impacts to biological resources would be less than significant.

IV. DETERMINATION:

The City of San Diego previously prepared a Mitigated Negative Declaration No. **255100** for the project described in the attached MND and Initial Study.

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:

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 (CSVSR). The CSVSR's shall be faxed by the CM to the RE the first day of monitoring, the last day of monitoring, monthly (**Notification of Monitoring Completion**), and in the case of ANY discoveries. The RE shall forward copies to MMC.

B. Discovery Notification Process

1. In the event of a discovery, the 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 CSV 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.

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
 - a. Prior to the start of any work that requires monitoring, the PI shall submit an Archaeological Monitoring Exhibit (AME) (with verification that the AME has been reviewed and approved by the Native American consultant/monitor when Native American resources may be impacted) based on the appropriate construction documents (reduced to 11x17) to MMC identifying the areas to be monitored including the delineation of grading/excavation limits.
 - b. The AME shall be based on the results of a site specific records search as well as information regarding the age of existing pipelines, laterals and associated appurtenances and/or any known soil conditions (native or formation).
 - c. MMC shall notify the PI that the AME has been approved.
 4. When Monitoring Will Occur
 - a. Prior to the start of any work, the PI shall also submit a construction schedule to MMC through the RE indicating when and where monitoring will occur.
 - b. The PI may submit a detailed letter to MMC prior to the start of work or during construction requesting a modification to the monitoring program. This request shall be based on relevant information such as review of final construction documents which indicate conditions such as age of existing pipe to be replaced, depth of excavation and/or site graded to bedrock, etc., which may reduce or increase the potential for resources to be present.
 5. Approval of AME and Construction Schedule
After approval of the AME by MMC, the PI shall submit to MMC written authorization of the AME and Construction Schedule from the CM.

III. During Construction

- A. Monitor Shall be Present During Grading/Excavation/Trenching
1. The Archaeological Monitor shall be present full-time during all soil disturbing and grading/excavation/trenching activities which could result in impacts to archaeological resources as identified on the AME. **The Construction Manager is responsible for notifying the RE, PI, and MMC of changes to any construction activities such as in the case of a potential safety concern within the area being monitored. In certain circumstances OSHA safety requirements may necessitate modification of the AME.**
 2. The Native American consultant/monitor shall determine the extent of their presence during soil disturbing and grading/excavation/trenching activities based on the AME and provide that information to the PI and MMC. If prehistoric resources are encountered during the Native American consultant/monitor's absence, work shall stop and the Discovery Notification Process detailed in Section III.B-C and IV.A-D shall commence.
 3. The PI may submit a detailed letter to MMC during construction requesting a modification to the monitoring program when a field condition such as modern disturbance post-dating the previous grading/trenching activities, presence of fossil formations, or when native soils are encountered that may reduce or increase the potential for resources to be present.
 4. The archaeological and Native American consultant/monitor shall document field activity via the Consultant Site Visit Record (CSVSR). The CSVSR's shall be faxed by the CM to the RE the first day of monitoring, the last day of monitoring, monthly (**Notification of Monitoring Completion**), and in the case of ANY discoveries. The RE shall forward copies to MMC.
- B. Discovery Notification Process
1. In the event of a discovery, the Archaeological Monitor shall direct the contractor to temporarily divert all soil disturbing activities, including but not limited to digging, trenching, excavating or grading activities in the area of discovery and in the area reasonably suspected to overlay adjacent resources and immediately notify the RE or BI, as appropriate.
 2. The Monitor shall immediately notify the PI (unless Monitor is the PI) of the discovery.
 3. The PI shall immediately notify MMC by phone of the discovery, and shall also submit written documentation to MMC within 24 hours by fax or email with photos of the resource in context, if possible.
 4. No soil shall be exported off-site until a determination can be made regarding the significance of the resource specifically if Native American resources are encountered.
- C. Determination of Significance
1. The PI and Native American consultant/monitor, where Native American resources are discovered shall evaluate the significance of the resource. If Human Remains are involved, follow protocol in Section IV below.
 - a. The PI shall immediately notify MMC by phone to discuss significance determination and shall also submit a letter to MMC indicating whether additional mitigation is required.

- b. If the resource is significant, the PI shall submit an Archaeological Data Recovery Program (ADRP) and obtain written approval of the program from MMC, CM and RE. ADRP and any mitigation must be approved by MMC, RE and/or CM before ground disturbing activities in the area of discovery will be allowed to resume. **Note: If a unique archaeological site is also an historical resource as defined in CEQA Section 15064.5, then the limits on the amount(s) that a project applicant may be required to pay to cover mitigation costs as indicated in CEQA Section 21083.2 shall not apply.**
 - (1) Note: For pipeline trenching and other linear projects in the public Right-of-Way, the PI shall implement the Discovery Process for Pipeline Trenching projects identified below under “D.”
 - c. If the resource is not significant, the PI shall submit a letter to MMC indicating that artifacts will be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that that no further work is required.
 - (1) Note: For Pipeline Trenching and other linear projects in the public Right-of-Way, if the deposit is limited in size, both in length and depth; the information value is limited and is not associated with any other resource; and there are no unique features/artifacts associated with the deposit, the discovery should be considered not significant.
 - (2) Note, for Pipeline Trenching and other linear projects in the public Right-of-Way, if significance cannot be determined, the Final Monitoring Report and Site Record (DPR Form 523A/B) shall identify the discovery as Potentially Significant.
- D. Discovery Process for Significant Resources - Pipeline Trenching and other Linear Projects in the Public Right-of-Way
- The following procedure constitutes adequate mitigation of a significant discovery encountered during pipeline trenching activities or for other linear project types within the Public Right-of-Way including but not limited to excavation for jacking pits, receiving pits, laterals, and manholes to reduce impacts to below a level of significance:
- 1. Procedures for documentation, curation and reporting
 - a. One hundred percent of the artifacts within the trench alignment and width shall be documented in-situ, to include photographic records, plan view of the trench and profiles of side walls, recovered, photographed after cleaning and analyzed and curated. The remainder of the deposit within the limits of excavation (trench walls) shall be left intact.
 - b. The PI shall prepare a Draft Monitoring Report and submit to MMC via the RE as indicated in Section VI-A.
 - c. The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) the resource(s) encountered during the Archaeological Monitoring Program in accordance with the City’s Historical Resources Guidelines. The DPR forms shall be submitted to the South Coastal Information Center for either a Primary Record or SDI Number and included in the Final Monitoring Report.

- d. The Final Monitoring Report shall include a recommendation for monitoring of any future work in the vicinity of the resource.

IV. Discovery of Human Remains

If human remains are discovered, work shall halt in that area and no soil shall be exported off-site until a determination can be made regarding the provenance of the human remains; and the following procedures as set forth in CEQA Section 15064.5(e), the California Public Resources Code (Sec. 5097.98) and State Health and Safety Code (Sec. 7050.5) shall be undertaken:

A. Notification

1. Archaeological Monitor shall notify the RE or BI as appropriate, MMC, and the PI, if the Monitor is not qualified as a PI. MMC will notify the appropriate Senior Planner in the Environmental Analysis Section (EAS) of the Development Services Department to assist with the discovery notification process.
2. The PI shall notify the Medical Examiner after consultation with the RE, either in person or via telephone.

B. Isolate discovery site

1. Work shall be directed away from the location of the discovery and any nearby area reasonably suspected to overlay adjacent human remains until a determination can be made by the Medical Examiner in consultation with the PI concerning the provenience of the remains.
2. The Medical Examiner, in consultation with the PI, will determine the need for a field examination to determine the provenience.
3. If a field examination is not warranted, the Medical Examiner will determine with input from the PI, if the remains are or are most likely to be of Native American origin.

C. If Human Remains **ARE** determined to be Native American

1. The Medical Examiner will notify the Native American Heritage Commission (NAHC) within 24 hours. By law, **ONLY** the Medical Examiner can make this call.
2. NAHC will immediately identify the person or persons determined to be the Most Likely Descendent (MLD) and provide contact information.
3. The MLD will contact the PI within 24 hours or sooner after the Medical Examiner has completed coordination, to begin the consultation process in accordance with CEQA Section 15064.5(e), the California Public Resources and Health & Safety Codes.
4. The MLD will have 48 hours to make recommendations to the property owner or representative, for the treatment or disposition with proper dignity, of the human remains and associated grave goods.
5. Disposition of Native American Human Remains will be determined between the MLD and the PI, and, if:
 - a. The NAHC is unable to identify the MLD, OR the MLD failed to make a recommendation within 48 hours after being notified by the Commission, OR;
 - b. The landowner or authorized representative rejects the recommendation of the MLD and mediation in accordance with PRC 5097.94 (k) by the NAHC fails to provide measures acceptable to the landowner, THEN

- c. To protect these sites, the landowner shall do one or more of the following:
 - (1) Record the site with the NAHC;
 - (2) Record an open space or conservation easement; or
 - (3) Record a document with the County.
 - d. Upon the discovery of multiple Native American human remains during a ground disturbing land development activity, the landowner may agree that additional conferral with descendants is necessary to consider culturally appropriate treatment of multiple Native American human remains. Culturally appropriate treatment of such a discovery may be ascertained from review of the site utilizing cultural and archaeological standards. Where the parties are unable to agree on the appropriate treatment measures the human remains and items associated and buried with Native American human remains shall be reinterred with appropriate dignity, pursuant to Section 5.c., above.
- D. If Human Remains are **NOT** Native American
- 1. The PI shall contact the Medical Examiner and notify them of the historic era context of the burial.
 - 2. The Medical Examiner will determine the appropriate course of action with the PI and City staff (PRC 5097.98).
 - 3. If the remains are of historic origin, they shall be appropriately removed and conveyed to the San Diego Museum of Man for analysis. The decision for internment of the human remains shall be made in consultation with MMC, EAS, the applicant/landowner, any known descendant group, and the San Diego Museum of Man.

V. Night and/or Weekend Work

- A. If night and/or weekend work is included in the contract
- 1. When night and/or weekend work is included in the contract package, the extent and timing shall be presented and discussed at the precon meeting.
 - 2. The following procedures shall be followed.
 - a. No Discoveries
In the event that no discoveries were encountered during night and/or weekend work, the PI shall record the information on the 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.

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 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 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 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*

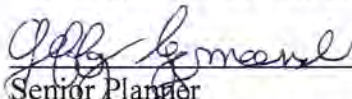
Gnatcatcher (3/1-8/15); Least Bell's vireo (3/15-9/15); and Southwestern Willow Flycatcher (5/1-8/30). If construction is proposed during the breeding season for the species, U.S. Fish and Wildlife Service protocol surveys will be required in order to determine species presence/absence. When applicable, 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.

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 or occupancy and/or final maps to ensure the successful completion of the monitoring program.


Senior Planner
Development Services Department

September 25, 2012
Date of Report

Analyst: Jeff Szymanski

Attachments: Location Map
Mitigated Negative Declaration No. 255100

The Addendum to Mitigated Negative Declaration No. 255100 was not distributed for public review pursuant to San Diego Municipal Code (SDMC) Chapter 6, Article 9, Paragraph 69.0211 (Addenda to Environmental Reports). The SDMC requires that addenda to environmental documents certified more than three years previously are to be distributed by Development Services Department (DSD) for a fourteen calendar-day public review period, along with the previously certified environmental document. Because the Mitigated Negative Declaration 255100 was certified on November 30, 2011, which is within the three year timeline, no additional public review is required. The final Addendum was distributed to the following groups and individuals for public disclosure in accordance with CEQA Section 15164.

VI. DISTRIBUTION:

Copies or notice of this Addendum were distributed to:
United States Government
U.S. Fish and Wildlife Service (23)
State of California

California Department of Fish and Game (32A)

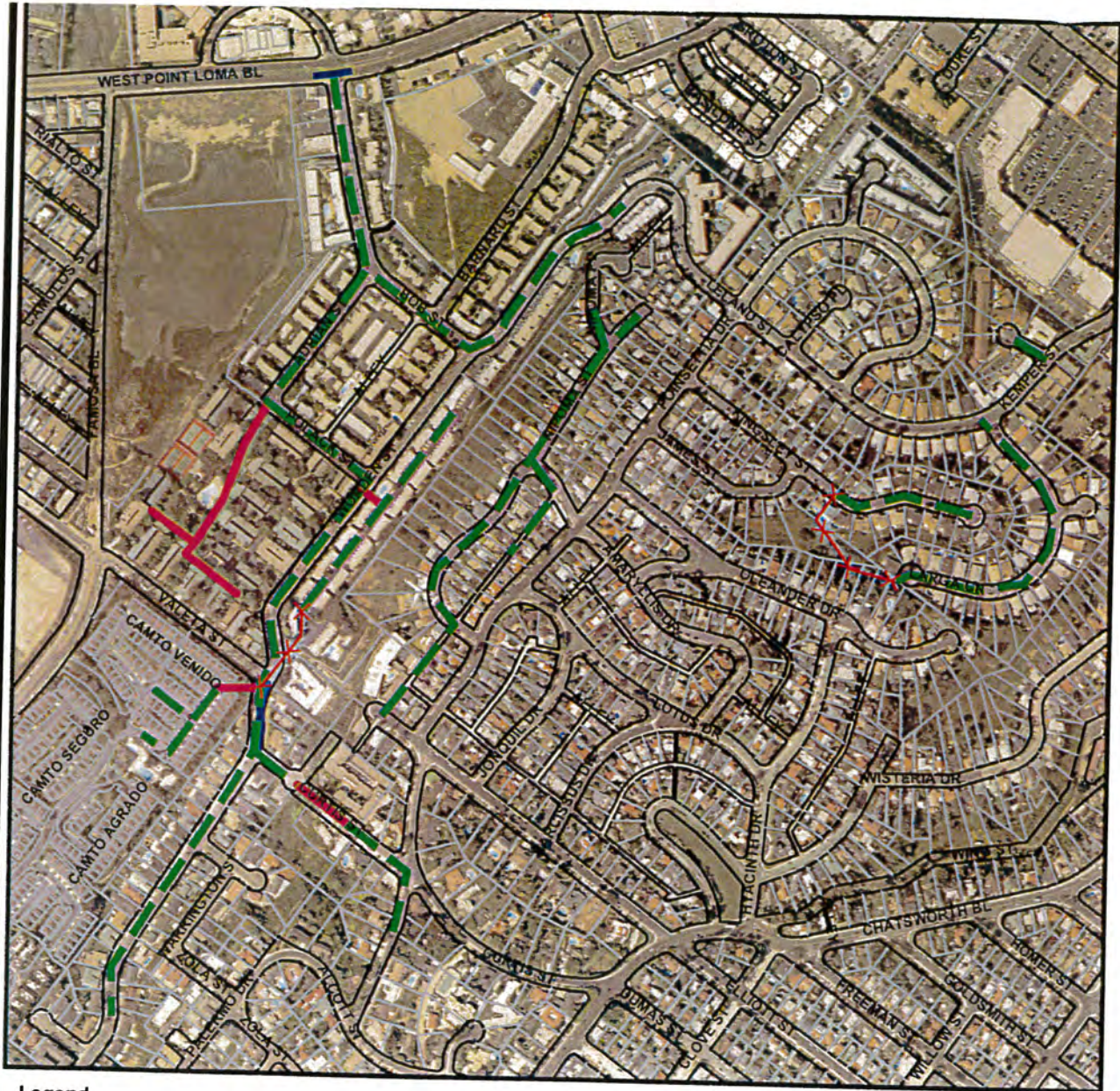
City of San Diego:

Council Member Faulconer, District 2
City Attorney (MS 56A)
Shannon Thomas (MS 93C)
Development Services Department
Helene Deisher (MS 501)
Historic Resources Board (87)
City of San Diego, Public Works – Engineering & Capital Projects
Luis Schaar (MS 908A)
James Arnhart (MS 908A)
Library Dept.-Gov. Documents MS 17 (81)
Point Loma Branch Library (81z)

Other:

North Bay Community Planning Group (307)
Peninsula Community Planning Board (390)
Sierra Club (165)
San Diego Audubon Society (167)
Jim Pugh (167A)
California Native Plant Society (170)
Endangered Habitat League (182 and 182A)
San Diego Natural History Museum (166)
South Coastal Information Center (210)
San Diego Historical Society (211)
San Diego Archaeological Center (212)
Save Our Heritage Organisation (214)
San Diego County Archaeological Society, Inc. (218)
Carmen Lucas (206)
Clint Linton (215b)
Save Our Heritage Organization (214)
Ron Christman (215)
Louie Guassac (215A)
Frank Brown (216)
Kumeyaay Cultural Heritage Preservation (223)
Kumeyaay Cultural Repatriation Committee (225)
Native American Distribution (NOTICE ONLY 225A-R)

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.



Legend

- WATER MAIN REPLACEMENT
- ✕ SEWER MAIN ABANDONMENT
- PROPOSED NEW SEWER MAIN
- SEWER MAIN REHABILITATION



Location Map

Sewer and Water Group 758/Project No. 230024

City of San Diego – Development Services Department

FIGURE

No. 1



ENTITLEMENTS DIVISION
(619) 446-5460

MITIGATED NEGATIVE DECLARATION

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 (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: Xenophon 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

<i>Issue Area</i>	<i>Document submittal</i>	<i>Associated Inspection/Approvals/Note</i>
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 1/4 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

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 CSVN 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

- (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 Ranch Branch Library (81FF)
 Scripps Ranch Branch Library (81FF)
 Scripps 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

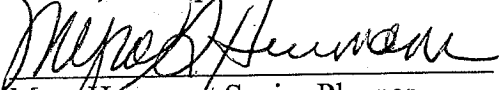
San Diego Unified Port District (109)
San Diego County Regional Airport Authority (110)
San Diego transit Corporation (112)
San Diego Gas & Electric (114)
Metropolitan Transit Systems (115)
San Diego Unified School District (125/132)
San Ysidro Unified School District (127)
San Diego Community College 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)

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

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



Edmund G. Brown Jr.
Governor

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit



Ken Alex
Director

CALIFORNIA STATE CLEARING HOUSE AND PLANNING UNIT (10/14/2011)

RESPONSE TO COMMENTS

October 14, 2011

Jeffrey Szymanski
City of San Diego
1222 First Avenue, MS-501
San Diego, CA 92101

Subject: Citywide Pipeline Projects 2011
SCH#: 2011091045

Dear Jeffrey Szymanski:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on October 13, 2011, and the comments from the responding agency(ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 TENTH STREET P.O. BOX 5044 SACRAMENTO, CALIFORNIA 95812-5044
TEL (916) 446-0613 FAX (916) 928-5018 www.spr.ca.gov

1. Comment acknowledged no response is necessary.

SCH# 2011091045
 Project Title Citywide Pipeline Projects 2011
 Lead Agency San Diego, City of

Type MND Mitigated Negative Declaration
Description Council Approval to allow the replacement, rehabilitation, relocation, point repair, new trenching, trenchless construction, and abandonment of water and/or sewer alignments and associated improvements such as curb ramps, sewer lateral connections, water service connections, manholes, new pavement/curb, the removal and/or replacement of street trees and the removal and/or replacement of street lights. The construction footprint, including staging areas and other areas (such as access) should be located within the City of San Diego Public Right-of-Way and/or within public easements. The proposal 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, manholes and other necessary appurtenances. All associated equipment would be staged in existing right-of-ways adjacent to the proposed work areas." The proposed project would not impact Sensitive Biological Resources or Environmentally Sensitive Lands (ESL) as defined by 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.

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Lead Agency Contact

Name Jeffrey Szymanski
 Agency City of San Diego
 Phone 619 446 5324
 email
 Address 1222 First Avenue, MS-501
 City San Diego State CA Zip 92101
 Fax

Project Location

County San Diego
 City San Diego
 Region
 Lat/Long
 Cross Streets Citywide
 Parcel No.
 Township
 Range
 Section
 Base

Proximity to:

- Highways
- Airports
- Railways
- Waterways
- Schools
- Land Use Citywide

Project Issues Archaeologic-Historic; Landuse; Other Issues

Reviewing Agencies Resources Agency; California Coastal Commission; Department of Fish and Game, Region 5; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Caltrans, Division of Aeronautics; California Highway Patrol; Caltrans, District 11; CA Department of Public Health; State Water Resources Control Board, Division of Financial Assistance; Regional Water Quality Control Board, Region 9; Native American Heritage Commission; Public Utilities Commission

Note: Blanks in data fields result from insufficient information provided by lead agency.

Date Received 09/14/2011 Start of Review 09/14/2011 End of Review 10/13/2011

RESPONSE TO COMMENTS

CALIFORNIA STATE CLEARING HOUSE AND PLANNING UNIT (10/14/2011)

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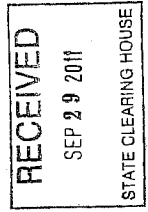
Note: Blanks in data fields result from insufficient information provided by lead agency.

DEPARTMENT OF TRANSPORTATION

DISTRICT II
PLANNING DIVISION
4650 TAYLOR STREET, MS 240
SAN DIEGO, CA 92110
PHONE (619) 688-6960
FAX (619) 688-4299
TTY 711

www.dot.ca.gov

September 28, 2011



11-SD-Var
PM Various
Citywide Pipeline Projects 2011
SCH# 2011091045

Mr. Jeffrey Szymanski
City of San Diego Development Services Center
1222 First Avenue MS 501
San Diego, CA 92101

11/16/10
Jedw

Dear Mr. Szymanski:

The California Department of Transportation (Caltrans) appreciates the opportunity to comment on the Draft Mitigated Negative Declaration (MND) for the North-South District Interconnection System Project (Project). The project is identified in the MND to cross State Route 52 (SR-52) and State Route 94 (SR-94). Caltrans would like to submit the following comments:

Any work performed within Caltrans Right-of-Way (R/W) will require an approved encroachment permit by Caltrans. All Caltrans standards for utility encroachments shall be met.

Additionally, any work performed within Caltrans R/W must provide an approved final environmental document including the California Environmental Quality Act (CEQA) determination addressing any environmental impacts within the Caltrans' R/W, and any corresponding technical studies. If these materials are not included with the encroachment permit application, the applicant will be required to acquire and provide these to Caltrans before the permit application will be accepted. Identification of avoidance and/or mitigation measures will be a condition of the encroachment permit approval as well as procurement of any necessary regulatory and resource agency permits.

Additional information regarding encroachment permits may be obtained by contacting the Caltrans Permits Office at (619) 688-6158. Early coordination with Caltrans is strongly advised for all encroachment permit.

If you have any questions on the comments Caltrans has provided, please contact Marisa Hampton of the Development Review Branch at (619) 688-6954.

Sincerely,

[Signature]

JACOB ARMSTRONG, Chief
Development Review Branch

"Caltrans improves mobility across California"

RESPONSE TO COMMENTS

DEPARTMENT OF TRANSPORTATION (9/28/2011)

2. The comment letter has been forwarded to the applicant department and it is acknowledged that any work conducted within the Caltrans R/W will require an approved encroachment permit by Caltrans.
3. The applicant department acknowledges that they must provide the certified CEQA document to Caltrans prior to the approval of an encroachment permit.

NATIVE AMERICAN HERITAGE COMMISSION

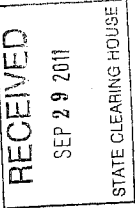
1225 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
Tel: (916) 493-8242
Fax: (916) 557-5390
Web Site: www.nahc.ca.gov
de_nahc@pacbell.net

RESPONSE TO COMMENTS

NATIVE AMERICAN HERITAGE COMMISSION (9/29/2011)

September 27, 2011

Mr. Jeffrey Szymanski, Environmental Planner
City of San Diego Development Services Department
1222 First Avenue, MS 501
San Diego, CA 92101



Re: SCH#2011091045; CEQA Notice of Completion; proposed Mitigated Negative Declaration for the "Citywide Pipeline Projects 2011," City Project No. 255100, located in the City of San Diego, San Diego County, California.

Dear Mr. Szymanski:

The Native American Heritage Commission (NAHC), the State of California Trustee Agency for the protection and preservation of Native American cultural resources pursuant to California Public Resources Code §21070 and affirmed by the Third Appellate Court in the case of EPIC v. Johnson (1985: 170 Cal App. 3rd 604). The NAHC wishes to comment on the proposed project.

This letter includes state and federal statutes relating to Native American historic properties of religious and cultural significance to American Indian tribes and interested Native American individuals as 'consulting parties' under both state and federal law. State law also addresses the freedom of Native American Religious Expression in Public Resources Code §5097.9.

The California Environmental Quality Act (CEQA - CA Public Resources Code 21000-21177, amendments effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ... objects of historic or aesthetic significance." In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the area of potential effect (APE), and if so, to mitigate that effect. The NAHC Sacred Lands File (SLF) search resulted as follows: **Native American cultural resources were identified** in several areas of the City of San Diego.

The NAHC "Sacred Sites," as defined by the Native American Heritage Commission and the California Legislature in California Public Resources Code §§5097.94(a) and 5097.96. Items in the NAHC Sacred Lands Inventory are confidential and exempt from the Public Records Act pursuant to California Government Code §6254 (r).

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries of cultural resources or burial sites once a project is underway. Culturally affiliated tribes and individuals may have knowledge of the religious and cultural significance of the historic properties in the project area (e.g. APE). We strongly urge that you

- 4. Comment noted. Staff acknowledges that Native American cultural resources have been identified within several areas of the City of San Diego. Archaeological and Native American monitoring has been included as mitigation within the MND and would preclude a substantial adverse change in the significance of historical resources.
- 5. Comment noted. The draft MND was sent to all individuals on the recommended list from the NAHC, with the exception of the Inter-Tribal Cultural Resource Council. This new group will be included in the distribution of the final MND and will also added to the City's list for distribution of draft environmental documents which include a discussion of archaeological and/or Native American cultural resources.

4.

5.

NATIVE AMERICAN HERITAGE COMMISSION (9/29/2011) continued

make contact with the list of Native American Contacts on the attached list of Native American contacts, to see if your proposed project might impact Native American cultural resources and to obtain their recommendations concerning the proposed project. Pursuant to CA Public Resources Code § 5097.95, the NAHC requests that the Native American consulting parties be provided pertinent project information. Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). Pursuant to CA Public Resources Code §5097.95, the NAHC requests that pertinent project information be provided consulting tribal parties. The NAHC recommends avoidance as defined by CEQA Guidelines §15370(g) to pursuing a project that would damage or destroy Native American cultural resources and Section 2183.2 that requires documentation, data recovery of cultural resources.

Consultation with tribes and interested Native American consulting parties, on the NAHC part, should be conducted in compliance with the requirements of federal NEPA and Section 106 and 4(f) of federal NHPA (16 U.S.C. 470 et seq), 36 CFR Part 800.3 (f) (2) & 5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 et seq, and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 Secretary of the Interior's Standards for the Treatment of Historic Properties were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, Federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The aforementioned Secretary of the Interior's Standards include recommendations for all 'lead agencies' to consider the historic context of proposed projects and to "research" the cultural landscape that might include the area of potential effect.

Confidentiality of "historic properties of religious and cultural significance" should also be considered as protected by California Government Code §6254(f) and may also be protected under Section 304 of the NHPA or at the Secretary of the Interior's discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the Federal Indian Religious Freedom Act (cf. 42 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APEs and possibility threatened by proposed project activity.

Furthermore, Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery'.

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. Regarding tribal consultation, a relationship built around regular meetings and informal involvement with local tribes will lead to more qualitative consultation tribal input on specific projects.

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

- 6. Please see Response to Comment 5. In addition, the MND includes mitigation requirements that would require the preparation of background research including a ¼ mile radius archaeological record search at the South Coastal Information Center prior to the commencement of construction. The record search of the surrounding area would provide the historic context and inform the consultant of the cultural landscape for the APE of the project.
- 7. Comment acknowledged.
- 8. Please see Section III and IV of the MMRP under Historical Resources (Archaeology). Mitigation measures are in place in case of discovery of human remains and archaeological resources during construction that would ensure compliance with Public Resources Code Section 5097.98, California Government Code §27491 and Health and Safety Code Section 7050.5
- 9. Comment noted. The City has gone to great efforts to establish and maintain productive working relationships with the Native American community.

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7.

8.

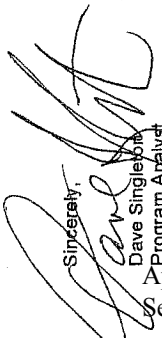
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RESPONSE TO COMMENTS

NATIVE AMERICAN HERITAGE COMMISSION (9/29/2011) continued

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Sincerely,

Dave Singlestone
Program Analyst
Cc: State Clearinghouse

Attachment: Native American Contact List

Jamul Indian Village
Kenneth Meza, Chairperson
P.O. Box 612
Jamul, CA 91935
jamulnaz@sctdv.net
(619) 469-4785
(619) 469-48178 - Fax

Diegueno/Kumeyaay
Inaja Band of Mission Indians
Rebecca Osuna, Spokesperson
2005 S. Escondido Blvd.
Escondido, CA 92025
(760) 737-7628
(760) 747-8568 Fax

Mesa Grande Band of Mission Indians
Mark Romero, Chairperson
P.O. Box 270
Santa Ysabel, CA 92070
mesagrandeband@msn.com
(760) 782-3818
(760) 782-9092 Fax

Kumeyaay Cultural Repatriation Committee
Steve Banegas, Spokesperson
1095 Barona Road
Lakeside, CA 92040
(619) 742-5587 - cell
(619) 742-5587
(619) 443-0681 FAX

Kumeyaay Cultural Heritage Preservation
Paul Guerrero
36198 Church Road, Suite 5
Campo, CA 91906
(619) 478-9046
(619) 478-9505
(619) 478-5818 Fax

Ewijaapaayp Tribal Office
Will Micklin, Executive Director
4054 Willows Road
Alpine, CA 91901
wmicklin@leaningrock.net
(619) 445-6315 - voice
(619) 445-9126 - fax

Kwaaymil Laguna Band of Mission Indians
Carmen Lucas
P.O. Box 775
Pine Valley, CA 91962
(619) 709-4207

Ewijaapaayp Tribal Office
Michael Garcia, Vice Chairperson
4054 Willows Road
Alpine, CA 91901
michaeltg@leaningrock.net
(619) 445-6315 - voice
(619) 445-9126 - fax

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This list is current only as of the date of this document.

The distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 6097.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed CH2011091045; CEQA Notice of Completion; proposed Mitigated Negative Declaration for the Citywide Pipelines Projects 2011; located in the City of San Diego; San Diego California.

NATIVE AMERICAN HERITAGE COMMISSION (9/29/2011) continued

- Barona Group of the Capitan Grande
Dwain Romero, Chairperson
095 Barona Road
Alpine, CA 92040
barona@barona-nsn.gov
619 443-6612
619 443-0681
- Barona and Vieja
Barona Band of Mission Indians
Wendylyn Parada, Chairperson
PO Box 1120
Alpine, CA 91905
parada@lapostacasino.com
619 478-2113
619 478-2125
- San Pasqual Band of Mission Indians
Allen Lawson, Chairperson
PO Box 365
Alpine Center, CA 92082
allen@sanpasqualband.com
760 749-3200
760 749-3876 Fax
- Payton of Santa Ysabel
Jill Perez, Spokesman
PO Box 130
Santa Ysabel, CA 92070
jrandietaylor@yahoo.com
760 765-0845
760 765-0320 Fax
- Sycuan Band of the Kumeyaay Nation
Danny Tucker, Chairperson
5459 Sycuan Road
El Cajon, CA 92021
ssilva@sycuan-hsn.gov
619 445-2613
619 445-1927 Fax
- Viejas Band of Kumeyaay Indians
Anthony R. Pico, Chairperson
PO Box 908
Alpine, CA 91903
jrothaufr@viejas-nsn.gov
(619) 445-3810
(619) 445-5337 Fax
- Kumeyaay Cultural Historic Committee
Ron Christman
56 Viejas Grade Road
Alpine, CA 92001
(619) 445-0385
- Campo Kumeyaay Nation
Monique LaChappa, Chairperson
36190 Church Road, Suite 1
Campo, CA 91906
mlachappa@campo-nsn.gov
(619) 478-9046
(619) 478-5818 Fax

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H#201091045; CEQA Notice of Completion; proposed Mitigated Negative Declaration for the Citywide Pipelines Projects 2011; located
in the City of San Diego; San Diego California.

pal Nation of Santa Ysabel
 Jint Linton, Director of Cultural Resources
 P.O. Box 507
 Santa Ysabel, CA 92070
 jllinton73@aol.com
 (760) 303-5694
 jllinton73@aol.com

Kumeeyaay Cultural Repatriation Committee
 Bernice Paiba, Vice Spokesperson
 P.O. Box 1120
 Boulevard, CA 91905
 (619) 478-2113

Marzanita Band of the Kumeeyaay Nation
 LeRoy A. Elliott, Chairperson
 P.O. Box 1302
 Boulevard, CA 91905
 (619) 766-4930
 (619) 766-4957 - FAX

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Kumeeyaay Diegueno Land Conservancy
 M. Louis Guassac
 P.O. Box 1992
 Alpine, CA 91903
 guassac@onebox.com
 (619) 952-8430

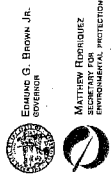
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Inter-Tribal Cultural Resource Council
 Frank Brown, Coordinator
 240 Brown Road
 Alpine, CA 91901
 FIREFIGHTER69TFF@AOL.COM
 (619) 884-8437

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is list is current only as of the date of this document.
 tribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code,
 ction 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

is list is applicable for contacting local Native Americans with regard to cultural resources for the proposed
 CH20110510645; CEQA Notice of Completion; proposed Mitigated Negative Declaration for the Citywide Pipelines Projects 2011; located
 the City of San Diego, San Diego California.



State Water Resources Control Board

OCT 10 2011

Jeffrey Szymanski, Associate Planner
City of San Diego, Development Services Department
1222 First Avenue MS 501
San Diego, CA 92101

Dear Mr. Szymanski,

IS(MND) FOR THE CITY OF SAN DIEGO (CITY); CITYWIDE PIPELINE PROJECTS 2011
(PROJECT); SAN DIEGO COUNTY; STATE CLEARINGHOUSE NO.2011091045

We understand the City maybe pursuing Clean Water State Revolving Fund (CWSRF) financing for this Project. As a funding agency and a State agency with jurisdiction by law to preserve, enhance, and restore the quality of California's water resources, the State Water Resources Control Board (State Water Board) is providing the following information for the environmental document prepared for the Project.

Please provide us with the following documents applicable to the proposed Project: (1) 2 copies of the draft and final IS/MND, (2) the resolution adopting/certifying the IS/MND making California Environmental Quality Act (CEQA) findings, (3) all comments received during the review period and the City's response to those comments, (4) the adopted Mitigation Monitoring and Reporting Program, and (5) the Notice of Determination filed with the Governor's Office of Planning and Research State Clearinghouse. In addition, we would appreciate notices of any hearings or meetings held regarding environmental review of any projects to be funded by the State Water Board.

The State Water Board, Division of Financial Assistance, is responsible for administering CWSRF funds. The primary purpose for the CWSRF Program is to implement the Clean Water Act and various state laws by providing financial assistance for wastewater treatment facilities necessary to prevent water pollution, recycle water, correct nonpoint source and storm drainage pollution problems, and provide for estuary enhancement, and thereby protect and promote health, safety and welfare of the inhabitants of the state. The CWSRF Program provides low-interest funding equal to one-half the most recent State General Obligation Bond Rates with a 20-year term. Applications are accepted and processed continuously. Please refer to the State Water Board's CWSRF website at www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/index.shtml.

The CWSRF Program is partially funded by the U.S. Environmental Protection Agency and requires additional "CEQA-Plus" environmental documentation and review. Four enclosures are included that further explain the environmental review process and some additional federal requirements in the CWSRF Program. The State Water Board is required to consult directly with agencies responsible for implementing federal environmental laws and regulations. Any environmental issues raised by federal agencies or their representatives will need to be resolved prior to State Water Board approval of a CWSRF funding commitment for the proposed Project.

CHARLES R. HOPPIN, CHAIRMAN | THOMAS HOWARD, EXECUTIVE DIRECTOR
1001 181st St., Sacramento, CA 95814 | Mailing Address: P.O. Box 100, Sacramento, CA 95812-0100 | www.waterboards.ca.gov



10. This comment does not address the adequacy of the CEQA document; therefore no response is necessary. The comment letter has been forwarded to the applicant City Department that is preparing the "CEQA-Plus" materials required for the CWSRF Program.

It is important to note that prior to a CWSRF funding commitment, projects are subject to provisions of the Federal Endangered Species Act, and must obtain Section 7 clearance from the U.S. Fish and Wildlife Service (USFWS), and/or National Marine Fisheries Service (NMFS) for any potential effects to special status species. Please be advised that the State Water Board will consult with USFWS, and/or NMFS regarding all federal special status species the Project has the potential to impact if the Project is to be funded under the CWSRF Program.

The City will need to identify whether the Project will involve any direct effects from construction activities or indirect effects, such as growth inducement, that may affect federally listed threatened, endangered, or candidate species that are known, or have a potential to occur on-site, in the surrounding areas, or in the service area, and to identify applicable conservation measures to reduce such effects.

In addition, CWSRF projects must comply with federal laws pertaining to cultural resources, specifically Section 106 of the National Historic Preservation Act. The State Water Board has responsibility for ensuring compliance with Section 106 and the State Water Board's Cultural Resources Officer (CRO) must consult directly with the California State Historic Preservation Officer (SHPO). SHPO consultation is initiated when sufficient information is provided by the CWSRF applicant. Please contact the CRO, Ms. Cookie Hirn, at (916) 341-5690, to find out more about the requirements, and to initiate the Section 106 process if the City decides to pursue CWSRF financing. Note that the City will need to identify the Area of Potential Effects (APE), including construction and staging areas and the depth of any excavation. The APE is three-dimensional and includes all areas that may be affected by the Project. The APE includes the surface area and extends below ground to the depth of any Project excavations. The records search request should be made for an area larger than the APE. The appropriate area varies for different projects but should be drawn large enough to provide information on what types of sites may exist in the vicinity.

Other federal requirements pertinent to the Project under the CWSRF Program include the following:

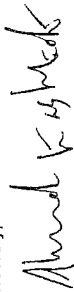
- A. Compliance with the federal Clean Air Act: (a) Provide air quality studies that may have been done for the Project; and (b) if the Project is in a nonattainment area or attainment area subject to a maintenance plan; (i) provide a summary of the estimated emissions (in tons per year) that are expected from both the construction and operation of the Project for each federal criteria pollutant in a nonattainment or maintenance area, and indicate if the nonattainment designation is moderate, serious, or severe (if applicable); (ii) if emissions are above the federal de minimis levels, but the Project is sized to meet only the needs of current population projections that are used in the approved State Implementation Plan for air quality, quantitatively indicate how the proposed capacity increase was calculated using population projections.
- B. Compliance with the Coastal Zone Management Act: identify whether the Project is within a coastal zone and the status of any coordination with the California Coastal Commission.
- C. Protection of Wetlands: Identify any portion of the proposed Project area that may contain areas that should be evaluated for wetlands or U.S. waters delineation by the U.S. Army Corps of Engineers (USACE), or require a permit from the USACE, and identify the status of coordination with the USACE.
- D. Compliance with the Migratory Bird Treaty Act: List any birds protected under this Act that may be impacted by the Project and identify conservation measures to minimize impacts

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Mr. Jeffrey Szymanski

The State Water Board has no comments at this time. Thank you for the opportunity to review the City's IS/MND. If you have any questions or concerns, please feel free to contact me at (916) 341-5855 or akashkoli@waterboards.ca.gov, or Terry Singleton at (916) 341-5686 or TTSingleton@waterboards.ca.gov.

Sincerely,



Ahmad Kashkoli
Environmental Scientist

cc: State Clearinghouse w/o enclosures
(Re: SCH# 2011091045)
P. O. Box 3044
Sacramento, CA 95812-3044

bcc: Lisa Lee, DFA
Cookie Hirn, DFA
Ahmad Kashkoli, DFA
Pete Mizera, DFA

Enclosures (4)

1. SRF & CEQA-Plus Requirements
2. Quick Reference Guide to CEQA Requirements for State Revolving Fund Loans
3. Instructions and Guidance for "Environmental Compliance Information"
4. Basic Criteria for Cultural Resources Reports

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STATE WATER RESOURCES CONTROL BOARD (9/10/2011)



Edmund G. Brown, Jr.
Governor

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit



RESPONSE TO COMMENTS

CALIFORNIA STATE CLEARING HOUSE AND PLANNING UNIT (10/14/2011)

October 14, 2011

Jeffrey Szymanski
City of San Diego
1222 First Avenue, MS-501
San Diego, CA 92101

Subject: Citywide Pipeline Projects 2011
SCH#: 2011091045

Dear Jeffrey Szymanski:

The enclosed comment (s) on your Mitigated Negative Declaration was (were) received by the State Clearinghouse after the end of the state review period, which closed on October 13, 2011. We are forwarding these comments to you because they provide information or raise issues that should be addressed in your final environmental document.

The California Environmental Quality Act does not require Lead Agencies to respond to late comments. However, we encourage you to incorporate these additional comments into your final environmental document and to consider them prior to taking final action on the proposed project.

Please contact the State Clearinghouse at (916) 445-0613 if you have any questions concerning the environmental review process. If you have a question regarding the above-named project, please refer to the ten-digit State Clearinghouse number (2011091045) when contacting this office.

Sincerely,

Scott Morgan
Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 446-0613 FAX (916) 323-3018 www.opr.ca.gov

11. The City acknowledges that the comment letter from The California Department of Fish and Game (CDFG) was received after the end of the state review period ended.

12. The City responses to the CDFG comment letter are included herein.



State of California - The Natural Resources Agency
 DEPARTMENT OF FISH AND GAME
 South Coast Region
 3883 Ruffin Road
 San Diego, CA 92123
 (858) 467-4201
 www.dfg.ca.gov

EDMUND G. BROWN, JR., Governor
 CHARLTON H. BONHAM, Director

CALIFORNIA DEPARTMENT OF FISH AND GAME (10/13/2011)

RESPONSE TO COMMENTS

RECEIVED
 OCT 14 2011
 STATE CLEARING HOUSE

October 11, 2011
 Mr. Jeffery Szymanski
 City of San Diego
 Development Services Center
 1222 First Avenue, MS 501
 San Diego, CA 92101

Subject: Comments on the Draft Mitigated Negative Declaration for Citywide Pipeline Projects, City of San Diego, San Diego County, California (Project No. 255100; SCH #2011091045)

Dear Mr. Szymanski:

The Department of Fish and Game (Department) has reviewed the above-referenced draft Mitigated Negative Declaration (MND), dated September 14, 2011. The comments provided herein are based on information provided in the draft MND, our knowledge of sensitive and declining vegetation communities in the County of San Diego, and our participation in regional conservation planning efforts.

The following statements and comments have been prepared pursuant to the Department's authority as Trustee Agency with jurisdiction over natural resources affected by the project (CEQA Guidelines §15386) and pursuant to our authority as a Responsible Agency under CEQA Guidelines Section 15381 over those aspects of the proposed project that come under the purview of the California Endangered Species Act (Fish and Game Code §2050 et seq.) and Fish and Game Code Section 1600 et seq. The Department also administers the Natural Community Conservation Planning Program (NCCP). The City of San Diego (City) participates in the NCCP program by implementing its approved Multiple Species Conservation Program (MSCP) Subarea Plan.

The proposed project covers five 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 project description specifies that the construction footprint for a typical pipeline project, including staging areas and other areas (such as access) would be located within City Public Right-of-Way (PROW) and/or within public easements and may include planned pipeline construction with private easements from the PROW to the service connection. The types of projects evaluated in the analysis consists of sewer and water group jobs, trunk sewers, large diameter water pipeline projects, manholes and other necessary appurtenances. The project scope defines that all associated equipment would be staged in existing PROW adjacent to the proposed work area(s). The project analysis concludes that no impact would occur to Sensitive Biological Resources or Environmentally Sensitive Lands as defined by the Land Development Code and the project would not encroach into the City's Multi-Habitat Planning Area (MHPA).

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We offer our recommendations and comments to assist the City in avoiding, minimizing, and adequately mitigating project related impacts to biological resources, and to ensure that the project is consistent with ongoing regional habitat planning efforts.

The initial study references that along with the environmental analysis that covers the five near-term pipeline projects, any subsequent future pipeline projects would be reviewed for consistency with the analysis covered in the Citywide Pipeline Project MND. Further, the initial study states "Where it can be determined that the project is 'consistent' with the 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." From a substantive and procedural context of CEQA, the Department considers the application of all forthcoming analysis covering "any subsequent future pipeline projects" as tiering upon the project MND; consequently we consider the City's environmental determination problematic. Lacking supplemental guidance from the lead agency, the Department interprets this approach as essentially "tiering" upon this MND as all similar types of "future pipeline projects" will be processed under an addendum to the adopted document. If it is the City's intent to tier upon this MND and apply it to those future pipeline projects, we would focus attention to CEQA Guidelines, Section 15152(b) and Public Resources Code, Sections 21093-21094, which defines tiering as being appropriate when the sequence of analysis is from an environmental impact report (EIR) prepared for a general plan, policy, or program to an EIR or negative declaration for another plan, policy or program of lesser scope, or to a site-specific EIR or negative declaration. Additionally, we would highlight Public Resources Code, Section 21166 which precludes any future projects with significant impact from tiering.

Based on the relevant CEQA sections cited above, the City's approach to essentially "tier" upon this MND has not been fully supported in the analysis. The presumption provided in the initial study is that at the time when the City can determine that any forthcoming project is "consistent" with the baseline analysis provided in the project MND, any subsequent CEQA analysis/processing would be limited to preparing an Addendum to this MND. In contrast, when considering CEQA Guidelines, Section 15162(a), we believe that it has been misapplied as currently explained in the processing guidance provided in this MND (i.e., §15162 is being applied to cover future projects when clearly the intent of §15162 is limited to a single project). Therefore, we request that the City reevaluate the statutory mandates under the CEQA and the circumstances for when any subsequent future pipeline projects could be processed from an adopted environmental document.

2. The biological resources analysis determined that for those five near-term projects that are located within the public right-of-way no significant project-related impacts on biological resources would occur. Compliance with CEQA is predicated on a complete and accurate description of the "environmental setting" that may be affected by the proposed project. We feel there is limited information in adequately defining (1) over-all width of the PROW (e.g., environmentally sensitive lands to the PROW; and (3) accurate environmental baseline conditions of all proposed staging areas (which should include a qualified biologist evaluating those existing site conditions). Absent a complete and accurate description of the existing physical conditions in and around all of the projects, we believe relying on the current environmental determination in this MND could result in an incomplete or inaccurate

RESPONSE TO COMMENTS

CALIFORNIA DEPARTMENT OF FISH AND GAME (10/13/2011) continued

13. The discussion within CEQA Guidelines section 15152(B) discusses tiering documents in terms of EIRs; however, the section does not definitively state that tiering documents requires the preparation of an EIR and often times the term EIR is used universally to refer to MNDs and NDs. (See also Guidelines section 15152 (b): "Agencies are encouraged to tier the environmental analyses which they prepare for separate but related projects ...") Please refer to CEQA Guidelines section 15064 (Determining the Significance of the Environmental Effects Caused by a Project) which clearly states when the preparation of an EIR would be required. In accordance with CEQA Guidelines section 15064(a)(1) a draft EIR is prepared when there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment. Guidelines section 15064 (f)(3) also provides: "(3) If the lead agency determines there is no substantial evidence that the project may have a significant effect on the environment, the lead agency shall prepare a negative declaration (*Friends of B Street v. City of Hayward* (1980) 106 Cal. App. 3d 988).

In accordance with CEQA Guidelines section 15063 the City conducted an Initial Study of the Citywide Pipeline project and it was determined that the project, with mitigation, would not result in significant unmitigated impacts and an MND was prepared.

In addition, the comment letter from CDFG states that Public Resources Code, section 21166 precludes future projects with significant impacts from tiering. As mentioned above, an Initial Study was conducted and significant impacts were not identified which could not be mitigated to below a level of significance.

The MND analyzes Citywide pipeline projects on a "pro grammatic" level (i.e., as a whole at a broad level of detail), but also analyzes the proposed projects on a site-specific basis where appropriate. As stated in the draft MND subsequent pipeline projects located within the developed public right of way will be reviewed and where it can be determined that the project is consistent with the MND pursuant to CEQA Guidelines section 15162 any necessary CEQA additions will be prepared or if the project would result in minor technical changes or additions, then an Addendum to this MND would be prepared pursuant to CEQA Guidelines section 15164. Pursuant to CEQA Guidelines section 15162 the Lead Agency has the ability to analyze proposed projects with previously certified environmental documents and neither CEQA Guidelines sections 15162 or 15164 limit the application to an individual project. In fact, CEQA Guidelines section 15162 (b) states: "If changes to a project or its circumstances occur or new information becomes available after adoption of a negative declaration, the lead agency shall prepare a subsequent EIR if required under subdivision (a). Otherwise the lead agency shall determine whether to prepare a subsequent negative declaration, an addendum, or no further documentation."


The City has utilized this procedure numerous times in the past without challenge. We note that CDFG has used the programmatic MND procedure in the past as well. However, we welcome your additional input on this issue as we continue to evaluate the statutory mandates under CEQA and the circumstances for when any subsequent future pipeline projects could be processed from an approved environmental document as you requested we do in your October 11, 2011 comment letter.

CALIFORNIA DEPARTMENT OF FISH AND GAME (10/13/2011) continued

analysis of project-related environmental impacts by the City. Also, the initial study discusses that near-term projects may be located in close proximity to, or adjacent to the City's MHPA, but not within the MHPA. The CEQA is intended to foster informed public decision making, therefore we believe that it would have been appropriate to include corresponding figures in the initial study that depict the MHPA boundaries in relationship to all of the anticipated construction-related activities. There is the intent provided in the MND to avoid any direct, indirect and cumulatively significant impacts to environmentally sensitive lands, however whether there is sufficient information provided in the environmental analysis to demonstrate that condition remains in question. Additionally, in evaluating the MHPA Land Use Adjacency Guidelines that were provided in the MND, there are a number of referrals for development within or adjacent to the MHPA. If it is correct that the near-term projects would entirely avoid the MHPA then it appears appropriate for the mitigation language to specifically state that condition.

The initial study identifies that construction for the near-term projects is anticipated to occur during the daytime hours. Should there be any potential for construction activities to occur during evening hours then the mitigation measures that are currently provided in the MND for addressing indirect effects to MHPA preserve lands should be revised to include conditions that specify that all auxiliary construction-related lighting shall be shielded in proximity to the MHPA.

The Department requests the opportunity to review any revision to MND prior to finalization to ensure that the comments and recommendations, contained herein, are adequately addressed. We appreciate the opportunity to comment on the MND for this project and to assist the City in further minimizing and mitigating project impacts to biological resources. If you have questions or comments regarding this letter, please contact Paul Schlitt of the Department at (858) 637-5510.

Sincerely,

Edmund Fert
Regional Manager
South Coast Region

cc: State Clearinghouse, Sacramento
Patrick Gower, USFWS, Carlsbad
Paul Schlitt, San Diego

14. The MND and Initial Study Checklist have been updated to include a thorough description of the projects that are adjacent to the MHPA. In addition, a graphic have been added for Group Job 949 - Site 2 which depicts the project location in relation to the MHPA. The Land Use Adjacency Guidelines (LUAGL) provides additional assurances that development adjacent to the MHPA would not result in direct or indirect edge effects from construction related activities. No projects have been or will be implemented under this MND which are within the MHPA. The LUAGL measures would be implemented when a pipeline project is within 100 feet from the edge of the MHPA and would be monitored for compliance by a qualified biological consultant. The MHPA LUAGL measures in the MND have been modified to eliminate references to "within the MHPA." Please note however, that many existing paved public right-of-ways may cross over areas mapped within the MHPA but would not result in any direct impacts to the MHPA. Please note that Sewer Group 787, which is adjacent to the MHPA, has been removed from this project.

15. Please see section A. I. 5. of the Land Use MMRP in the MND which requires adequate shielding to protect sensitive habitat. In addition, section A. III. A. 3. of the Land Use MMRP in the MND requires that periodic night inspections be conducted to verify that all lighting adjacent to the MHPA be directed away from the Preserve.



San Diego County Archaeological Society, Inc.

Environmental Review Committee

5 October 2011

Appendix A Addendum To Mitigated Negative Declaration
Sewer and Water Group 758

SAN DIEGO COUNTY ARCHAEOLOGICAL SOCIETY, INC (10/5/2011)

To: Mr. Jeffrey Szymanski
Development Services Department
City of San Diego
1222 First Avenue, Mail Station 501
San Diego, California 92101

Subject: Draft Mitigated Negative Declaration
Citywide Pipeline Project -- 2011
Project No. 255100

Dear Mr. Szymanski:

I have reviewed the subject DMND on behalf of this committee of the San Diego County Archaeological Society.

Based on the information in the DMND and initial study, we have the following comments:

1. It is not clear why Water Group 949 does not include archaeological monitoring mitigation measures for some or all of the portions where the line is installed in new trenches.
2. The last sentence of cultural resources mitigation measure IV.5.d appears to be missing one or more words. The portion in question currently reads "...appropriate treatment measures the human remains and buried with Native American human remains..."

Thank you for the opportunity to review and comment upon this DMND.

Sincerely,


James W. Royle, Jr., Chairman
Environmental Review Committee

cc: SDCAS President
File

P.O. Box 81106 • San Diego, CA 92138-1106 • (619) 538-0935

16. Water Group 949 would be located in three different areas within the City of San Diego: Skyline-Paradise Hills, University/Clairemont Mesa, and Greater Golden Hill/Barrio Logan. New trenching would only occur in the Clairemont Mesa area, and existing previously excavated trenches would be utilized in the Greater Golden Hill/Barrio Logan and Skyline-Paradise Hills areas of the City. The University/Clairemont Mesa area is not located on the City of San Diego's Historical Sensitivity Map and therefore archaeological monitoring would not be required for this project segment. As mentioned previously, the existing trenches would be utilized in the other areas where native soils have already been disturbed. Therefore, archaeological monitoring would not be required in these areas.

17. Comment noted. Staff has reviewed the section from the MMRP and determined that the language in subsection "d" came directly from the Public Resources Code and three words were somehow omitted when this section of the City MMRP was created. The missing words have been added to section IV.C.5.d of the archaeological MMRP and shown in underline format. The master MMRP has been updated and EAS staff have been notified of the revision for future environmental documents.

16
17

RINCON BAND OF LUISEÑO INDIANS Culture Committee

P.O. Box 68 • Valley Center 92082 • (760) 297-2621 (760) 297-2629 Fax



RESPONSE TO COMMENTS

September 28, 2011

RINCON BAND OF LUISEÑO INDIANS (9/28/2011)

To whom it may concern

On behalf of the Rincon Band of Luiseño Indians, I have received your letter. We thank you for informing us of the projects you propose and for including us in your research for cultural resource identification on the property. However the area is not in the Luiseño Tribe's territory. We highly recommend that you seek the assistance of the tribes that are located in the area of potential effect.

Although the Rincon Band of Luiseño Indians does not have cultural significance in this area, we would like to recommend the following guidelines. The first recommendation is to contact the tribes in the territory to receive instructions on how to handle any findings appropriately according their custom and tradition. Second to have Native American site monitors on site to identify artifacts that may be found during any ground disturbance in order to have the artifacts handled with dignity and respect; should human remains be discovered follow the California Resource Code 5097.98 and the procedures in this section.

Once again thank you for informing of your project and keeping Native Americans informed of these projects. We wish you success in your endeavors and hope the project is completed with the satisfaction of all parties involved.

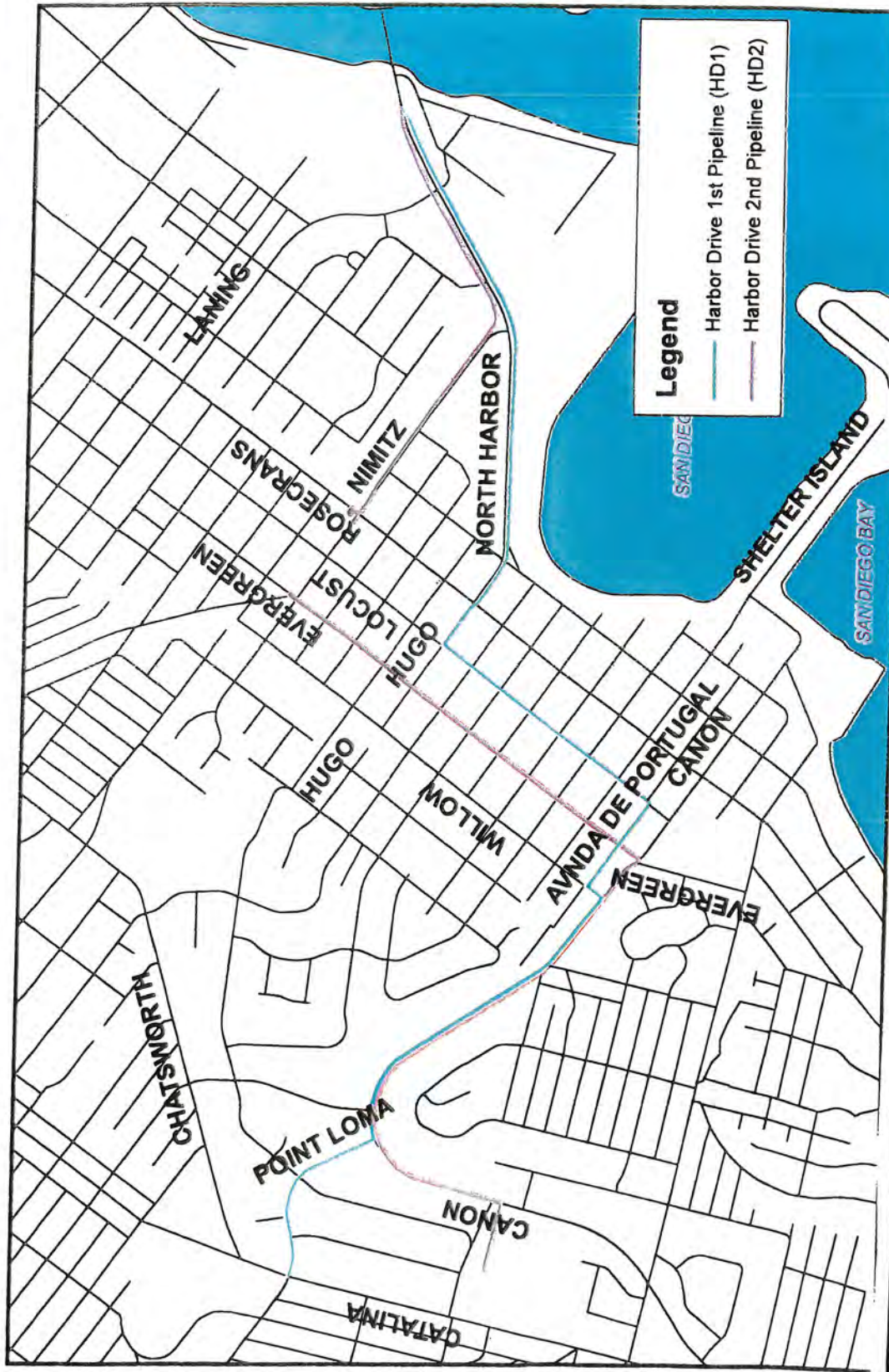
Sincerely,

Rose Duro
Rincon Culture Committee Chair

- 18. Comment noted. Please see Response to Comment 5. The draft MND was sent to all individuals on the recommended list from the NAHC, with the exception of the Inter-Tribal Cultural Resource Council, this group will be included in the distribution of the final MND.
- 19. Please see section B of the General Requirements of the MND and Section A. 1. of the Historical Resources section of the MMRP which requires Native American monitors to be present on-site during all construction related activities.

Bo Mazzotti Tribal Chairman	Stephanie Spencer Vice Chairwoman	Charlie Kolb Council Member	Steve Stallings Council Member	Laurie Gonzales Council Member
--------------------------------	--------------------------------------	--------------------------------	-----------------------------------	-----------------------------------

**FIGURE
No. 1**

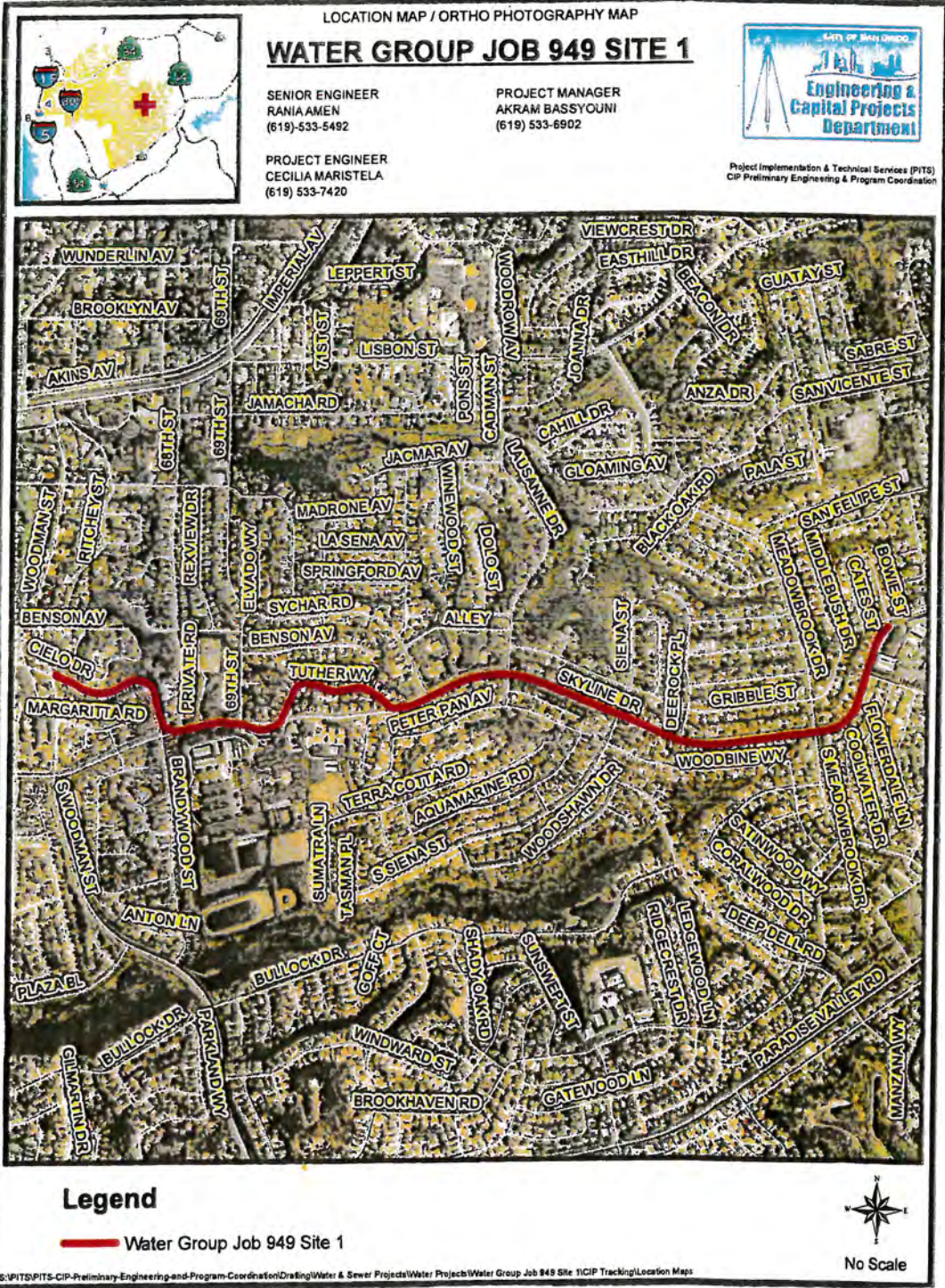


Citywide Pipeline Projects-Project No. 255100

Harbor Drive Pipeline / Project No. 206100

City of San Diego – Development Services Department





Citywide Pipe Line Project- Project No.

255100 Appendix A Addendum To Mitigated Negative Declaration
Sewer and Water Group 758

Water Group 949 Site 1/Project No. 232719

FIGURE

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No. 2



LOCATION MAP/ ORTHO PHOTOGRAPHY MAP
WATER GROUP JOB 949 SITE 2

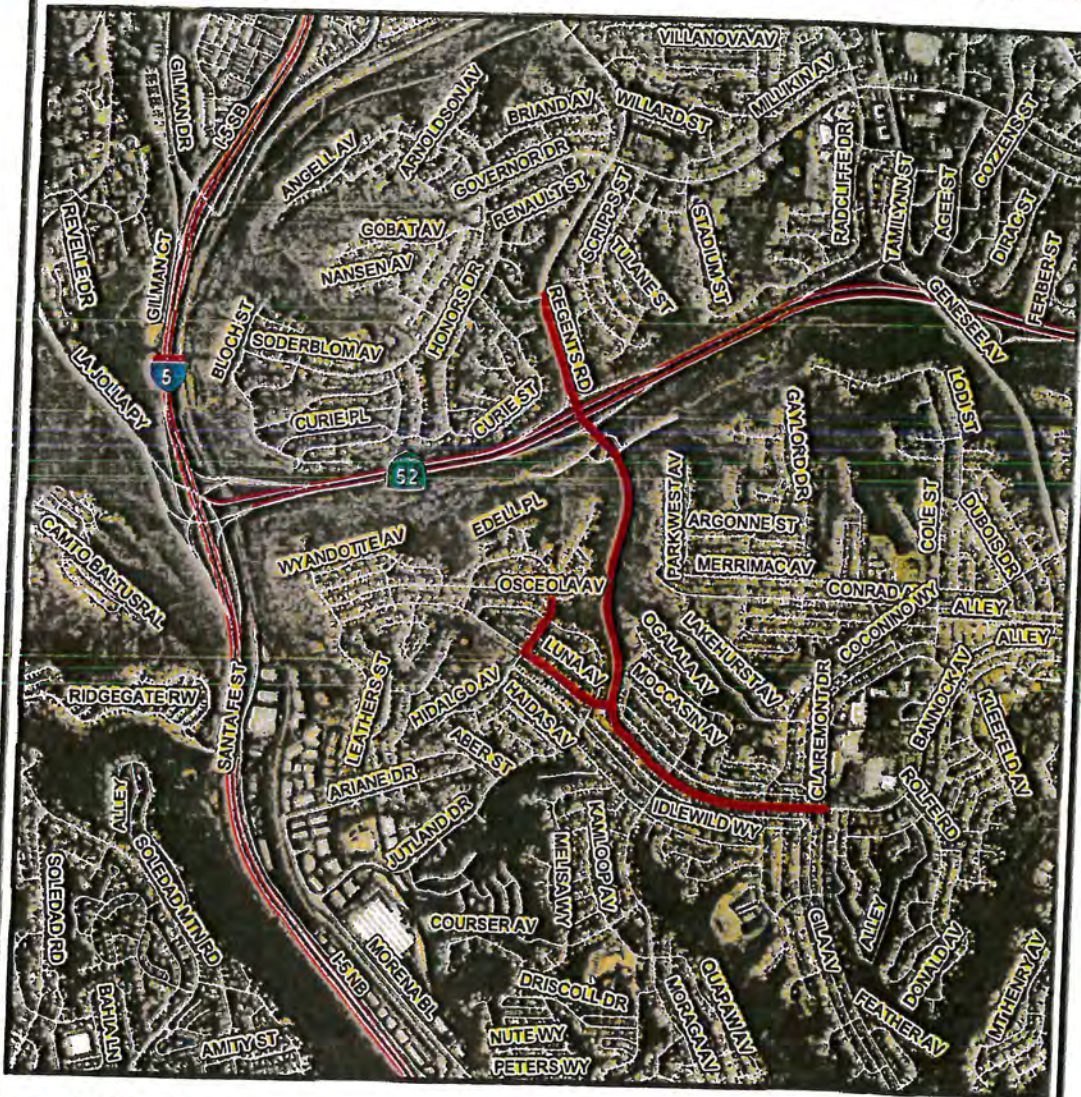
SENIOR ENGINEER
 RANIA AMEN
 (619)-533-5492

PROJECT MANAGER
 AKRAM BASSYOUNI
 (619) 533-6902

PROJECT ENGINEER
 CECILIA MARISTELA
 (619) 533-7420



Project Implementation & Technical Services (PITS)
 CIP Preliminary Engineering & Program Coordination



Legend

 Water Group Job 949 Site 2



No Scale

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Citywide Pipeline Project-Project No. 255100

Appendix A Addendum To Mitigated Negative Declaration
 Water Group 949 Site 2/Project No. 232719

City of San Diego – Development Services Department

FIGURE

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No. 3



LOCATION MAP/ ORTHO PHOTOGRAPHY MAP
WATER GROUP JOB 949 SITE 3

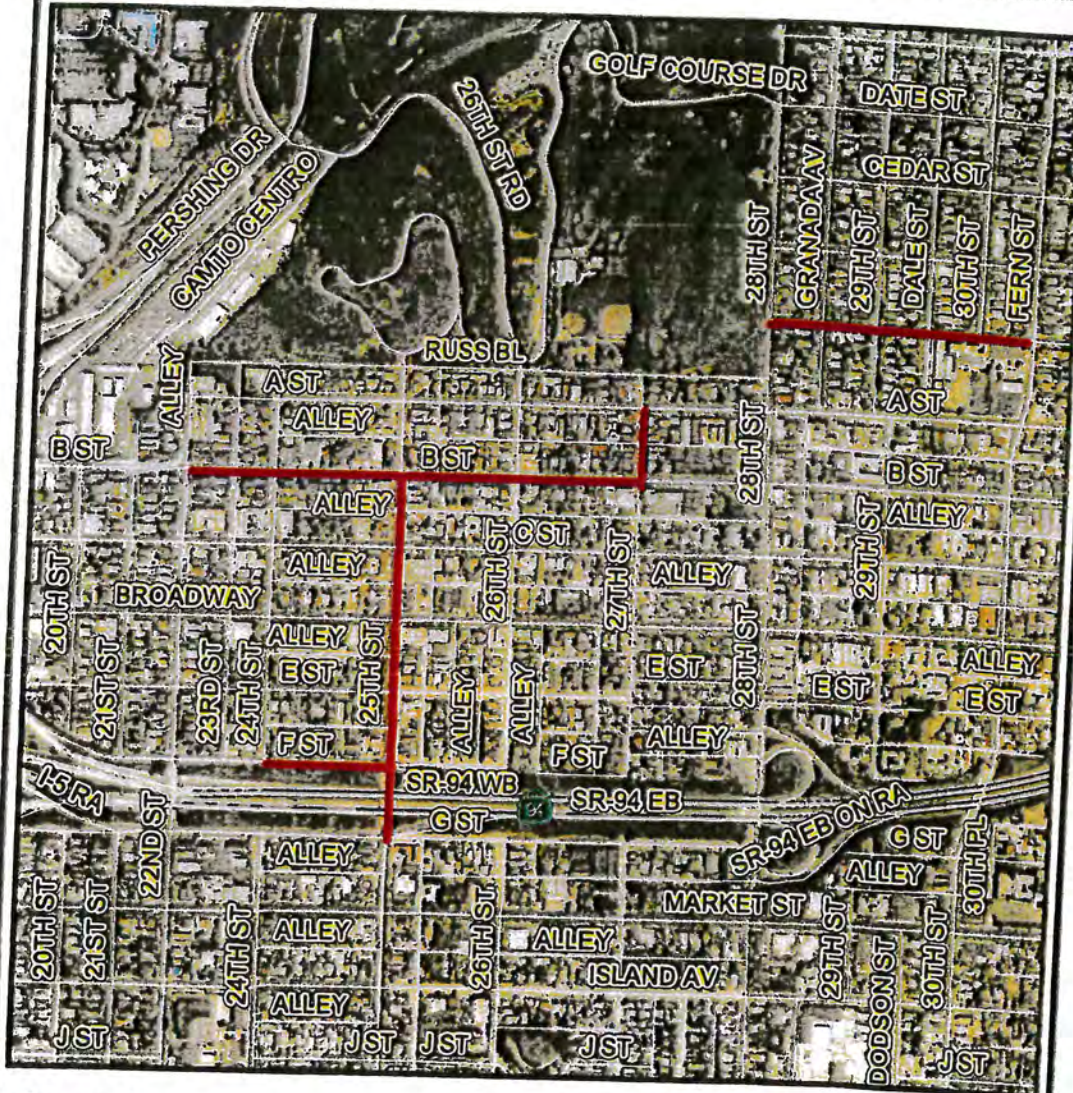
SENIOR ENGINEER
 RANIA AMEN
 (619)-533-5492

PROJECT MANAGER
 AKRAM BASSYOUNI
 (619) 533-6902

PROJECT ENGINEER
 CECILIA MARISTELA
 (619) 533-7420



Project Implementation & Technical Services (PITS)
 CIP Preliminary Engineering & Program Coordination



Legend

Water Group Job 949 Site 3



No Scale

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Citywide Pipeline Project-Project No.

255100 Appendix A Addendum To Mitigated Negative Declaration
 Sewer and Water Group 758

Water Group 949 Site 3/Project No. 232719

FIGURE

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No. 4

Sewer Group 787

SENIOR ENGINEER
Carl Spier
619-533-5126

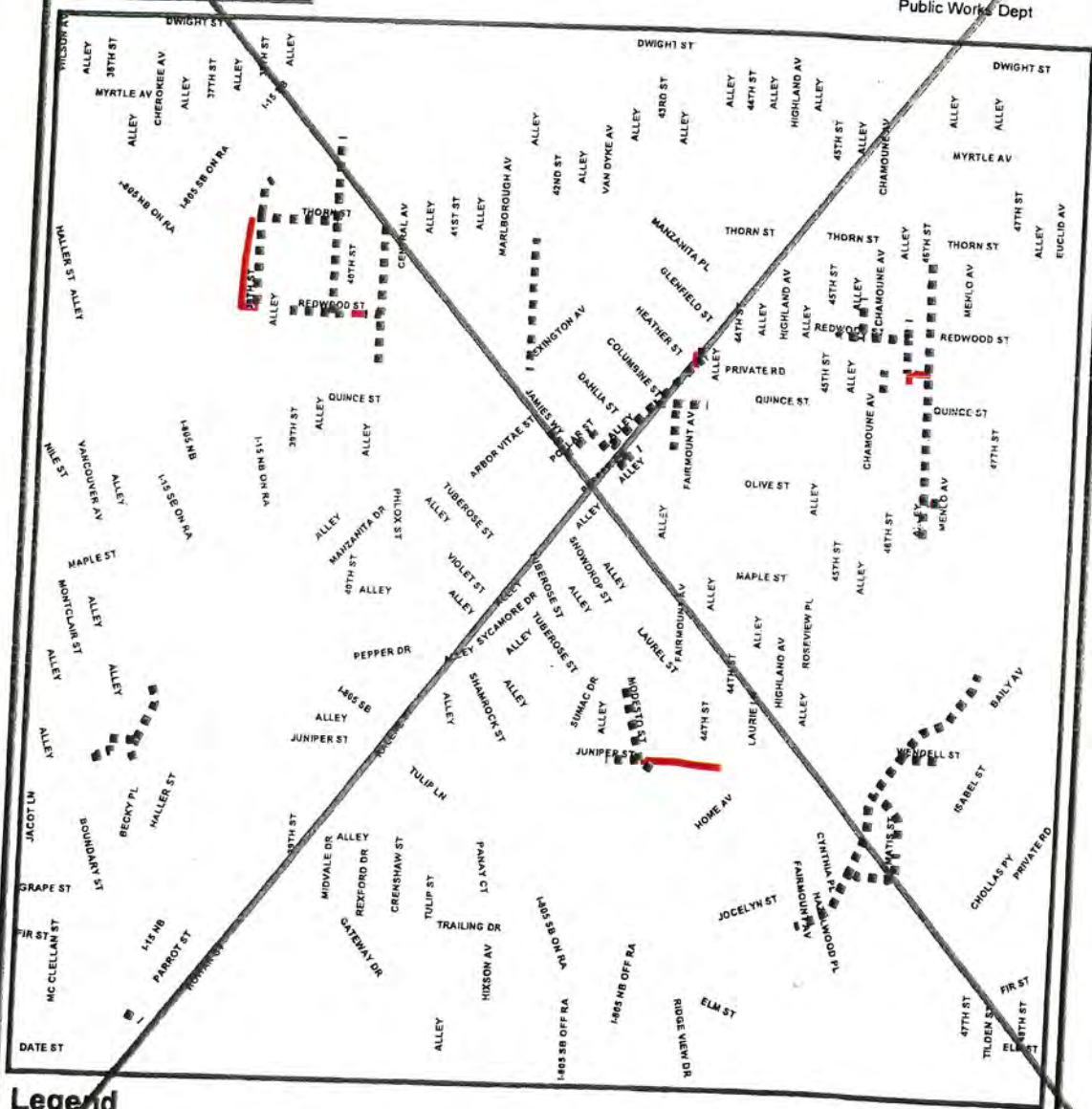
PROJECT MANAGER
Regan Owen
619-533-5205

PROJECT ENGINEER
Matthew DeBeliso
619-533-5286

PUBLIC INFORMATION OFFICER
HOTLINE
619-533-4207



Public Works Dept



Legend

- ■ ■ Sewer_Group_787
- Sewer_Group_787_Abandonment



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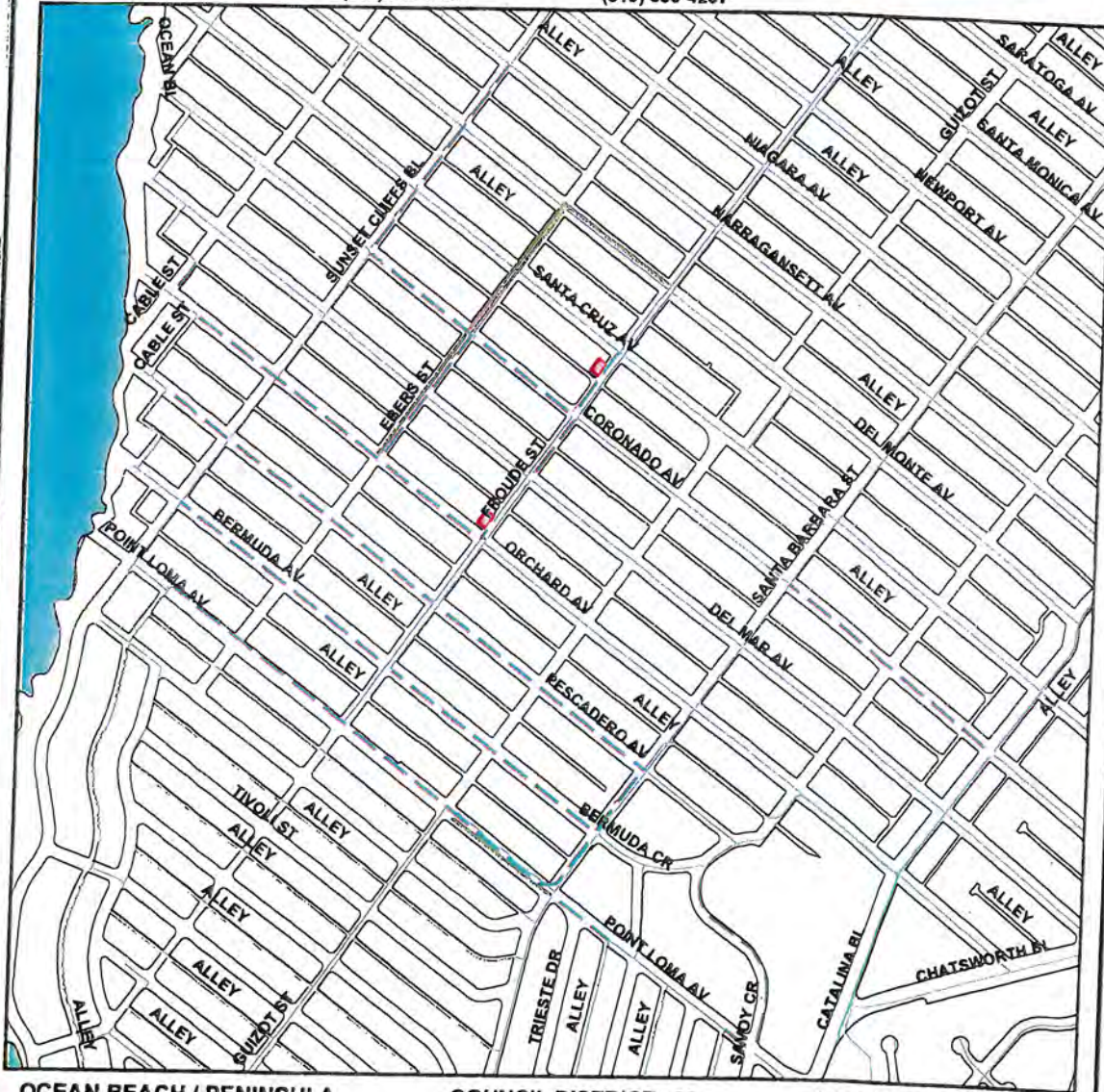
**WATER GROUP 914
WATER MAIN REPLACEMENT**

SENIOR ENGINEER
WENDY GAMBOA
(619) 235-1971

PROJECT ENGINEER
ROBERTO VEJAR-PARRA
(619) 533-5402

PROJECT MANAGER
MICHAEL NINH
(619) 533-7443

**PUBLIC INFORMATION
HOTLINE**
(619) 533-4207



OCEAN BEACH / PENINSULA
LEGEND

COUNCIL DISTRICT: 02

WBS NO.: B-00125 (W)

- REPLACE IN PLACE EXIST. WATER MAIN
- PROP. NEW WATER MAIN
- PROP. TRENCHLESS WATER
- PROP. NEW PRESSURE REGULATOR STATION (PRS)
- EXISTING WATER MAINS



Citywide Pipeline Projects-Project No.

255100

Appendix A Addendum To Mitigated Negative Declaration
Sewer and Water Group 758

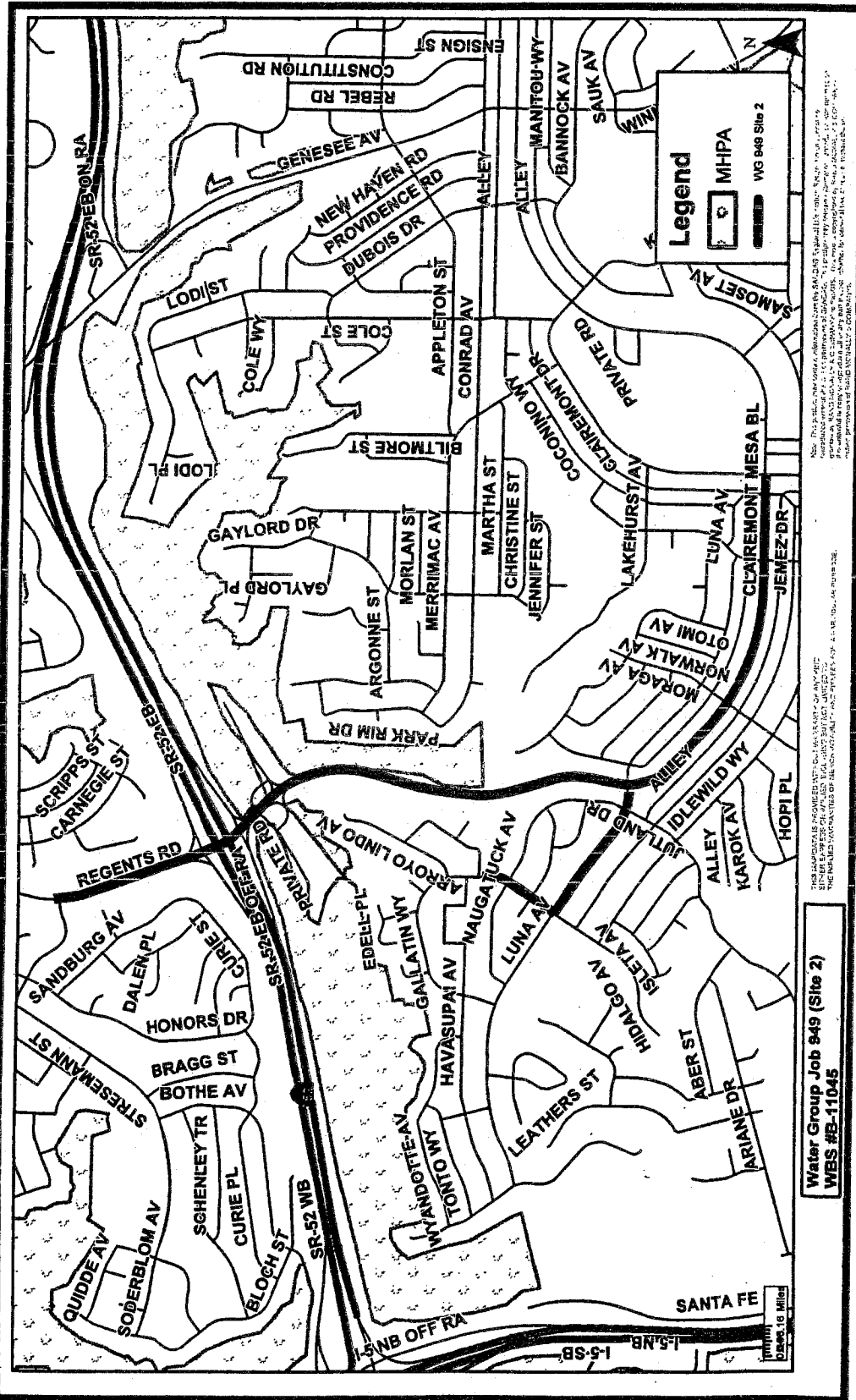
Water Group 914 /Project No. 233447

FIGURE

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No. 6

**FIGURE
No. 8**



Citywide Pipeline Project-Project No. 255100

Water 949 Site 2/ Project No. 232719

City of San Diego – Development Services Department



APPENDIX B

Fire Hydrant Meter Program

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

1. **PURPOSE**

- 1.1 To establish a Departmental policy and procedure for issuance, proper usage and charges for fire hydrant meters.

2. **AUTHORITY**

- 2.1 All authorities and references shall be current versions and revisions.
- 2.2 San Diego Municipal Code (NC) Chapter VI, Article 7, Sections 67.14 and 67.15
- 2.3 Code of Federal Regulations, Safe Drinking Water Act of 1986
- 2.4 California Code of Regulations, Titles 17 and 22
- 2.5 California State Penal Code, Section 498B.0
- 2.6 State of California Water Code, Section 110, 500-6, and 520-23
- 2.7 Water Department Director

Reference

- 2.8 State of California Guidance Manual for Cross Connection Programs
- 2.9 American Water Works Association Manual M-14, Recommended Practice for Backflow Prevention
- 2.10 American Water Works Association Standards for Water Meters
- 2.11 U.S.C. Foundation for Cross Connection Control and Hydraulic Research Manual

3. **DEFINITIONS**

- 3.1 **Fire Hydrant Meter:** A portable water meter which is connected to a fire hydrant for the purpose of temporary use. (These meters are sometimes referred to as Construction Meters.)

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SUBJECT FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)	PAGE 2 OF 10	EFFECTIVE DATE October 15, 2002
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- 3.2 **Temporary Water Use:** Water provided to the customer for no longer than twelve (12) months.
- 3.3 **Backflow Preventor:** A Reduced Pressure Principle 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.

CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS	NUMBER DI 55.27	DEPARTMENT Water Department
SUBJECT FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)	PAGE 3 OF 10	EFFECTIVE DATE October 15, 2002
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2. The meter must be properly identifiable with a clearly labeled serial number on the body of the fire hydrant meter. The serial number shall be plainly stamped on the register lid and the main casing. Serial numbers shall be visible from the top of the meter casing and the numbers shall be stamped on the top of the inlet casing flange.
3. All meters shall be locked to the fire hydrant by the Water Department, Meter Section (see Section 4.7).
4. All meters shall be read by the Water Department, Meter Section (see Section 4.7).
5. All meters shall be relocated by the Water Department, Meter Section (see Section 4.7).
6. These meters shall be tested on the anniversary of the original test date and proof of testing will be submitted to the Water Department, Meter Shop, on a yearly basis. If not tested, the meter will not be allowed for use in the City of San Diego.
7. All private fire hydrant meters shall have backflow devices attached when installed.
8. The customer must maintain and repair their own private meters and private backflows.
9. The customer must provide current test and calibration results to the Water Department, Meter Shop after any repairs.
10. When private meters are damaged beyond repair, these private meters will be replaced by City owned fire hydrant meters.

CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS	NUMBER DI 55.27	DEPARTMENT Water Department
SUBJECT FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)	PAGE 4 OF 10	EFFECTIVE DATE October 15, 2002
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11. When a private meter malfunctions, the customer will be notified and the meter will be removed by the City and returned to the customer for repairs. Testing and calibration results shall be given to the City prior to any re-installation.
12. The register shall be hermetically sealed straight reading and shall be readable from the inlet side. Registration shall be in hundred cubic feet.
13. The outlet shall have a 2 ½ "National Standards Tested (NST) fire hydrant male coupling.
14. Private fire hydrant meters shall not be transferable from one contracting company to another (i.e. if a company goes out of business or is bought out by another company).

4.4 All fire hydrant meters and appurtenances shall be installed, relocated and removed by the City of San Diego, Water Department. All City owned fire hydrant meters and appurtenances shall be maintained by the City of San Diego, Water Department, Meter Services.

4.5 If any fire hydrant meter is used in violation of this Department Instruction, the violation will be reported to the Code Compliance Section for investigation and appropriate action. Any customer using a fire hydrant meter in violation of the requirements set forth above is subject to fines or penalties pursuant to the Municipal Code, Section 67.15 and Section 67.37.

4.6 **Conditions and Processes for Issuance of a Fire Hydrant Meter**

Process for Issuance

- a. Fire hydrant meters shall only be used for the following purposes:
 1. Temporary irrigation purposes not to exceed one year.

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2. Construction and maintenance related activities (see Tab 2).
 - b. No customer inside or outside the boundaries of the City of San Diego Water Department shall resell any portion of the water delivered through a fire hydrant by the City of San Diego Water Department.
 - c. The City of San Diego allows for the issuance of a temporary fire hydrant meter for a period not to exceed 12 months (365 days). An extension can only be granted in writing from the Water Department Director for up to 90 additional days. A written request for an extension by the consumer must be submitted at least 30 days prior to the 12 month period ending. No extension shall be granted to any customer with a delinquent account with the Water Department. No further extensions shall be granted.
 - d. Any customer requesting the issuance of a fire hydrant meter shall file an application with the Meter Section. The customer must complete a "Fire Hydrant Meter Application" (Tab 1) which includes the name of the company, the party responsible for payment, Social Security number and/or California ID, requested location of the meter (a detailed map signifying an exact location), local contact person, local phone number, a contractor's license (or a business license), description of specific water use, duration of use at the site and full name and address of the person responsible for payment.
 - e. At the time of the application the customer will pay their fees according to the schedule set forth in the Rate Book of Fees and Charges, located in the City Clerk's Office. All fees must be paid by check, money order or cashiers check, made payable to the City Treasurer. Cash will not be accepted.
 - f. No fire hydrant meters shall be furnished or relocated for any customer with a delinquent account with the Water Department.
 - g. After the fees have been paid and an account has been created, the

CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS	NUMBER DI 55.27	DEPARTMENT Water Department
SUBJECT FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)	PAGE 6 OF 10	EFFECTIVE DATE October 15, 2002
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meter shall be installed within 48 hours (by the second business day). For an additional fee, at overtime rates, meters can be installed within 24 hours (within one business day).

4.7 Relocation of Existing Fire Hydrant Meters

- a. The customer shall call the Fire Hydrant Meter Hotline (herein referred to as "Hotline"), a minimum of 24 hours in advance, to request the relocation of a meter. A fee will be charged to the existing account, which must be current before a work order is generated for the meter's relocation.
- b. The customer will supply in writing the address where the meter is to be relocated (map page, cross street, etc). The customer must update the original Fire Hydrant Meter Application with any changes as it applies to the new location.
- c. Fire hydrant meters shall be read on a monthly basis. While fire hydrant meters and backflow devices are in service, commodity, base fee and damage charges, if applicable, will be billed to the customer on a monthly basis. If the account becomes delinquent, the meter will be removed.

4.8 Disconnection of Fire Hydrant Meter

- a. After ten (10) months a "Notice of Discontinuation of Service" (Tab 3) will be issued to the site and the address of record to notify the customer of the date of discontinuance of service. An extension can only be granted in writing from the Water Department Director for up to 90 additional days (as stated in Section 4.6C) and a copy of the extension shall be forwarded to the Meter Shop Supervisor. If an extension has not been approved, the meter will be removed after twelve (12) months of use.
- b. Upon completion of the project the customer will notify the Meter Services office via the Hotline to request the removal of the fire hydrant meter and appurtenances. A work order will be generated

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SUBJECT FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)	PAGE 7 OF 10	EFFECTIVE DATE October 15, 2002
	SUPERSEDES DI 55.27	DATED April 21, 2000

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

CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS	NUMBER DI 55.27	DEPARTMENT Water Department
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inspection. After installation is approved by the Meter Shop the vehicle and meter shall be brought to the Meter Shop on a monthly basis for meter reading and on a quarterly basis for testing of the backflow assembly. Meters mounted at the owner's expense shall have the one year contract expiration waived and shall have meter or backflow changed if either fails.

- b) **Floating Meters:** Floating Meters are meters that are not mounted to a vehicle. **(Note: All floating meters shall have an approved backflow assembly attached.)** The customer shall submit an application and a letter explaining the need for a floating meter to the Meter Shop. The Fire Hydrant Meter Administrator, after a thorough review of the needs of the customer, (i.e. number of jobsites per day, City contract work, lack of mounting area on work vehicle, etc.), may issue a floating meter. At the time of issue, it will be necessary for the customer to complete and sign the "Floating Fire Hydrant Meter Agreement" which states the following:

- 1) The meter will be brought to the Meter Shop at 2797 Caminito Chollas, San Diego on the third week of each month for the monthly read by Meter Shop personnel.
- 2) Every other month the meter will be read and the backflow will be tested. This date will be determined by the start date of the agreement.

If any of the conditions stated above are not met the Meter Shop has the right to cancel the contract for floating meter use and close the account associated with the meter. The Meter Shop will also exercise the right to refuse the issuance of another floating meter to the company in question.

Any Fire Hydrant Meter using reclaimed water shall not be allowed use again with any potable water supply. The customer shall incur the cost of replacing the meter and backflow device in this instance.

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SUBJECT FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)	PAGE 9 OF 10	EFFECTIVE DATE October 15, 2002
	SUPERSEDES DI 55.27	DATED April 21, 2000

7. FEE AND DEPOSIT SCHEDULES

- 7.1 **Fees and Deposit Schedules:** The fees and deposits, as listed in the Rate Book of Fees and Charges, on file with the Office of the City Clerk, are based on actual reimbursement of costs of services performed, equipment and materials. These deposits and fees will be amended, as needed, based on actual costs. Deposits, will be refunded at the end of the use of the fire hydrant meter, upon return of equipment in good working condition and all outstanding balances on account are paid. Deposits can also be used to cover outstanding balances.

All fees for equipment, installation, testing, relocation and other costs related to this program are subject to change without prior notification. The Mayor and Council will be notified of any future changes.

8. UNAUTHORIZED USE OF WATER FROM A HYDRANT

- 8.1 Use of water from any fire hydrant without a properly issued and installed fire hydrant meter is theft of City property. Customers who use water for unauthorized purposes or without a City of San Diego issued meter will be prosecuted.
- 8.2 If any unauthorized connection, disconnection or relocation of a fire hydrant meter, or other connection device is made by anyone other than authorized Water Department personnel, the person making the connection will be prosecuted for a violation of San Diego Municipal Code, Section 67.15. In the case of a second offense, the customer's fire hydrant meter shall be confiscated and/or the deposit will be forfeited.
- 8.3 Unauthorized water use shall be billed to the responsible party. Water use charges shall be based on meter readings, or estimates when meter readings are not available.
- 8.4 In case of unauthorized water use, the customer shall be billed for all applicable charges as if proper authorization for the water use had been obtained, including but not limited to bi-monthly service charges, installation charges and removal charges.

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

- 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)

For Office Use Only

Department: METER SHOP 619 527 7449
2797 Caminito Chollas • San Diego, California 92105-5097 • FAX 619 527 3125

NS Req:	Fac #:
Date:	By:

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

Fire Hydrant Location: (Attach detailed map, Thomas Bros. map location or construction drawing.)

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 Code: Phone: ()

*Business License #: *Contractor License #:

**A copy of the Contractor's License and/or Business License is required at the time of meter issuance.*

Name and Title of Agent: Phone: ()

Site Contact Name and Title: Phone: ()

Pager #: Cell: ()

Responsible Party Name: Title:

Social Security or 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

Check Box to Request Removal of Above Meter Requested Removal Date:

Provide current Meter location if different from above:

Signature: Title: Date:

Phone: () Pager: ()

For Office Use Only

<input type="checkbox"/> City Meter	<input type="checkbox"/> Private Meter
CIS Account #:	Deposit Amount: \$ Fees Amount: \$
Meter Serial #:	Meter Size: Meter Make & Style:
Backflow #:	Backflow Size: Meter Make & Style:
Name:	Signature: Date:

\$1,108.45 - FOR 24 HR INSTALLATION
 \$1,052.26 - FOR 48 HR INSTALLATION

FHM App Created: 11/2/00-htp

"Exhibit B"

CONSTRUCTION AND MAINTENANCE RELATED ACTIVITIES WITH NO 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 Seeding
Irrigation (for establishing irrigation only; not continuing irrigation)
Mixing Concrete
Mobile Car Washing
Special Events
Street Sweeping
Water Tanks
Water Trucks
Window Washing**

Note: If there is any return to sewer or storm drain, then sewer and/or storm drain fees will be charged.

"Exhibit C"

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 refer to the Water Departments', Department Instruction (D.I.) 55.27 for further information and procedure.

Mail your request for an extension to :

City of San Diego, Water Department
Attn: Meter Services
2797 Caminito Chollas
San Diego, Ca. 92105-5097

Should you have any questions regarding this matter, please call the Fire Hydrant "Hot Line" at: (xxx) xxx-xxx.

Sincerely,

City of San Diego Water Department



Fire Hydrant Meter Relocate/Removal Request

(EXHIBIT D)

For Office Use Only

NS Req:	FHM Fac #:
Date:	By:

Date:

Instruction: Complete pertinent information then FAX both form and map to (xxx) xxx-xxxx, mail, or hand-deliver to the City of San Diego, Water Department/Meter Shop at: 2707 Caminito Chollas San Diego, CA 92105

Meter Information

Billing Account #:	Requested Move Date:
Current Fire Hydrant Meter Location:	
New Meter Location: (Attach a detailed map, Thomas Bros map location or construction drawing.)	

Company Information

Company Name:			
Mailing Address			
City:	State:	Zip Code:	Phone: ()
Name and Title of Requestor:			Phone: ()
Site Contact Name and Title			Phone: ()
Pager #:			Cell: ()
Responsible Party Name authorizing relocation fee:			
Signature:	Title:	Date:	

Fire Hydrant Meter Removal Request

<input type="checkbox"/> Check Box to Request Removal of Above Meter	Requested Removal Date:	
Provide current Meter location if different from above:		
Signature:	Title:	Date:
Phone: ()	Pager: ()	

For Office Use Only

CIS Account #:	Fees Amount: \$		
Meter Serial #:	Size:	Make/Style	
Backflow #:	Size:	Make/Style	
Name:	Signature:	Date:	

FHM Relocate_Removal Form

FHM App Created: 11/2/00-htp

APPENDIX C

Materials Typically Accepted by Certificate of Compliance

Materials Typically Accepted by Certificate of Compliance

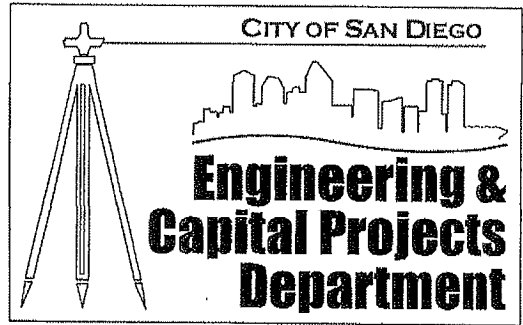
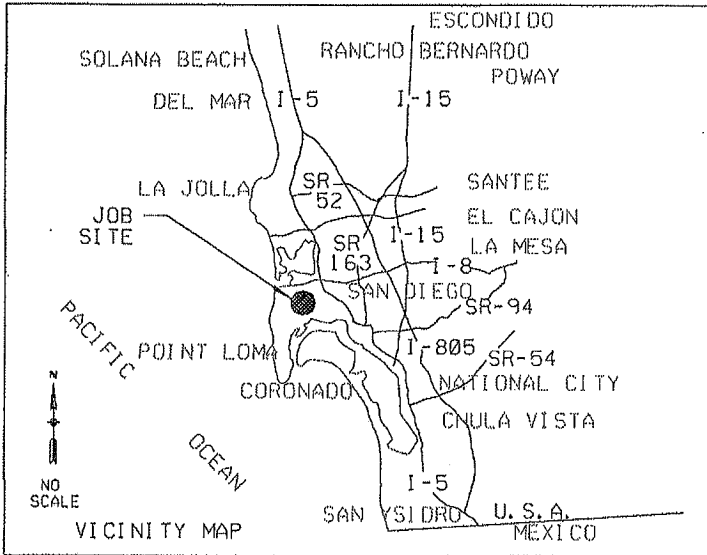
1. Soil amendment
2. Fiber mulch
3. PVC or PE pipe up to 16 inch diameter
4. Stabilizing emulsion
5. Lime
6. Preformed elastomeric joint seal
7. Plain and fabric reinforced elastomeric bearing pads
8. Steel reinforced elastomeric bearing pads
9. Waterstops (Special Condition)
10. Epoxy coated bar reinforcement
11. Plain and reinforcing steel
12. Structural steel
13. Structural timber and lumber
14. Treated timber and lumber
15. Lumber and timber
16. Aluminum pipe and aluminum pipe arch
17. Corrugated steel pipe and corrugated steel pipe arch
18. Structural metal plate pipe arches and pipe arches
19. Perforated steel pipe
20. Aluminum underdrain pipe
21. Aluminum or steel entrance tapers, pipe downdrains, reducers, coupling bands and slip joints
22. Metal target plates
23. Paint (traffic striping)
24. Conductors
25. Painting of electrical equipment
26. Electrical components
27. Engineering fabric
28. Portland Cement
29. PCC admixtures
30. Minor concrete, asphalt
31. Asphalt (oil)
32. Liquid asphalt emulsion
33. Epoxy

APPENDIX D

Sample City Invoice

City of San Diego, Field Engineering Div., 9485 Aero Drive, SD CA 92123						Contractor's Name:					
Project Name:						Contractor's Address:					
SAP No. (WBS/IO/CC)											
City Purchase Order No.						Contractor's Phone #:			Invoice No.		
Resident Engineer (RE):						Contractor's Fax #:			Invoice Date:		
RE Phone#:			RE Fax#:			Contact Name:			Billing Period:		
Item #	Item Description	Contract Authorization				Previous Estimate		This Estimate		Totals to Date	
		Unit	Qty	Price	Extension	%/QTY	Amount	% / QTY	Amount	% / QTY	Amount
1	2 Parallel 4" PVC C900	LF	1,380	\$34.00	\$46,920.00						
2	48" Primary Steel Casing	LF	500	\$1,000.00	\$500,000.00						
3	2 Parallel 12" Secondary Steel	LF	1,120	\$53.00	\$59,360.00						
4	Construction and Rehab of PS 49	LS	1	\$150,000.00	\$150,000.00						
5	Demo	LS	1	\$14,000.00	\$14,000.00						
6	Install 6' High Chain Link Fence	LS	1	\$5,600.00	\$5,600.00						
7	General Site Restoration	LS	1	\$3,700.00	\$3,700.00						
8	10" Gravity Sewer	LF	10	\$292.00	\$2,920.00						
9	4" Blow Off Valves	EA	2	\$9,800.00	\$19,600.00						
10	Bonds	LS	1	\$16,000.00	\$16,000.00						
11	Field Orders	AL	1	80,000	\$80,000.00						
11.1	Field Order 1	LS	5,500	\$1.00	\$5,500.00						
11.2	Field Order 2	LS	7,500	\$1.00	\$7,500.00						
11.3	Field Order 3	LS	10,000	\$1.00	\$10,000.00						
11.4	Field Order 4	LS	6,500	\$1.00	\$6,500.00						
12	Certified Payroll	LS	1	\$1,400.00	\$1,400.00						
CHANGE ORDERS											
Change Order 1			4,890								
Items 1-4					\$11,250.00						
Item 5-Deduct Bid Item 3		LF	120	-\$53.00	(\$6,360.00)						
Change Order 2			160,480								
Items 1-3					\$95,000.00						
Item 4 Deduct Bid Item 1		LF	380	-\$340.00	(\$12,920.00)						
Item 5-Encrease bid Item 9		LF	8	\$9,800.00	\$78,400.00						
Change Order 3 (Close Out)			-121,500								
Item 1 Deduct Bid Item 3			53	-500.00	(\$26,500.00)						
Item 2 Deduct Bid Item 4		LS	-1	45,000.00	(\$45,000.00)						
Items 3-9			1	-50,500.00	(\$50,500.00)						
SUMMARY								Total This	\$ -	Total Billed	\$0.00
A. Original Contract Amount						Retention and/or Escrow Payment Schedule					
B. Approved Change Order 1 Thru 3						Total Retention Required as of this billing					
C. Total Authorized Amount (A+B)						Previous Retention Withheld in PO or in Escrow					
D. Total Billed to Date						Add'l Amt to Withhold in PO/Transfer in Escrow:					
E. Less Total Retention (5% of D)						Amt to Release to Contractor from PO/Escrow:					
F. Less Total Previous Payments											
G. Payment Due Less Retention						Contractor Signature and Date:					
H. Remaining Authorized Amount											

APPENDIX E
Adjacent Project

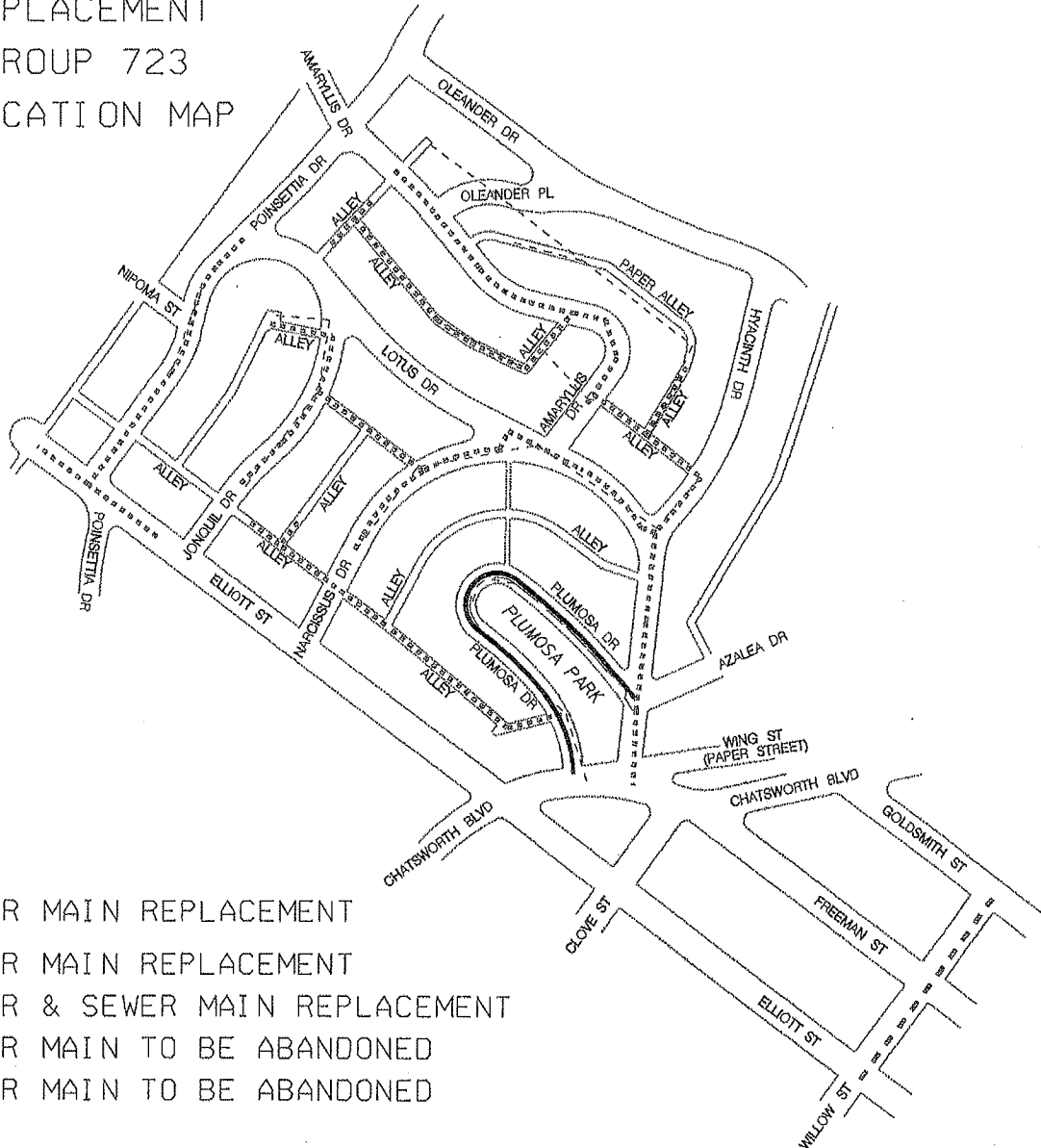


PROJECT ENGINEER
SHEILA GAMUEDA
@ 533-5227

SENIOR ENGINEER
CARL E. SPIER, P.E.
@ 533-5126

PROJECT MANAGER
BIJAN SHAKIBA
@ 533-5191

WATER & SEWER MAIN
REPLACEMENT
GROUP 723
LOCATION MAP



LEGEND:

- SEWER MAIN REPLACEMENT
- WATER MAIN REPLACEMENT
- WATER & SEWER MAIN REPLACEMENT
- SEWER MAIN TO BE ABANDONED
- WATER MAIN TO BE ABANDONED

01-24-11 CEK

COMMUNITY PLAN PENINSULA • COUNCIL DISTRICT 02 • SAP ID: B-00462 (S), B-00050 (W)

APPENDIX F

Hydrostatic Discharge Form

APPENDIX

Hydrostatic Discharge Requirements Certification (Discharge Events < 500,000 gpd)

All discharge activities related to this project comply with the Regional Water Quality Control Board (RWQCB) Order No. 2002-0020, General Permit for Discharges of Hydrostatic Test Water and Potable Water to Surface Water and Storm Drains as referenced by (http://www.swrcb.ca.gov/rwqcb9/board_decisions/adopted_orders/2002/2002_0020.shtml), and as follows:

Discharged water has been dechlorinated to below 0.1 (mg/l) level; and effluent has been maintained between 6 and 9 (PH) based on:							<i>is discharge within acceptable limits?</i>		<i>Comment</i>
Event #	Discharge Date & Amount (GAL)	Discharge Time	Meter Readings (at source)	Test Results (Chlorine / PH)	Name of Personnel Conducting Tests (print)	*signature of personnel	yes	no	
	Date	Start:	Start:						
	Amt:	End:	End:						
	Date	Start:	Start:						
	Amt:	End:	End:						
	Date	Start:	Start:						
	Amt:	End:	End:						
	Date	Start:	Start:						
	Amt:	End:	End:						
	Date	Start:	Start:						
	Amt:	End:	End:						
	Date	Start:	Start:						
	Amt:	End:	End:						
	Date	Start:	Start:						
	Amt:	End:	End:						
	Date	Start:	Start:						
	Amt:	End:	End:						
	Date	Start:	Start:						
	Amt:	End:	End:						
	Date	Start:	Start:						
	Amt:	End:	End:						
	Date	Start:	Start:						
	Amt:	End:	End:						

**By signing, I certify that all of the statements and conditions for hydrostatic discharge events are correct.*

Project Name: _____

Work Order No.(s): _____

Have any thresholds have been exceeded? Per Order No. 2002-0020, would this be a reportable discharge and must be reported **within 24 hours** of the event? [Reportable discharge would include violation of maximum gallons per day, any upset which exceeds any effluent limit]

APPENDIX G

Discharge Points and Flow Data

Maximum Allowable Discharge Flow					
MH ID	Allowable discharge				Comments
C18S146	1.0	MGD	694	gpm	Value valid during dry & wet weather
C18S152	1.0	MGD	694	gpm	Value valid during dry & wet weather
C18S158	1.0	MGD	694	gpm	Value valid during dry & wet weather
C18S159	1.0	MGD	694	gpm	Value valid during dry & wet weather

If more than one manhole is used the total amount of discharge should not exceed 1.0 MGD

Pre-Approval Discharge Points Group Job 758

Ocean Beach Trunk Sewer #14

Discharge Point
MH C18S146

Discharge Point
MH C18S152

Discharge Point
MH C18S159

Discharge Point
MH C18S158



APPENDIX H

Hazardous Label/Forms

SAMPLE HAZARDOUS WASTE LABEL

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 _____ 24 HR. PHONE () _____
ADDRESS _____
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 HAZARDOUS PROPERTIES FLAMMABLE TOXIC
 SOLID LIQUID | CORROSIVE REACTIVE 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?	<input type="checkbox"/>	<input type="checkbox"/>
2. Did anyone, other than employees in the immediate area of the release, evacuate?	<input type="checkbox"/>	<input type="checkbox"/>
3. Did the release cause off-site damage to public or private property?	<input type="checkbox"/>	<input type="checkbox"/>
4. Is the release greater than or equal to a reportable quantity (RQ)?	<input type="checkbox"/>	<input type="checkbox"/>
5. Was there an uncontrolled or unpermitted release to the air?	<input type="checkbox"/>	<input type="checkbox"/>
6. Did an uncontrolled or unpermitted release escape secondary containment, or extend into any sewers, storm water conveyance systems, utility vaults and conduits, wetlands, waterways, public roads, or off site?	<input type="checkbox"/>	<input type="checkbox"/>
7. Will control, containment, decontamination, and/or clean up require the assistance of federal, state, county, or municipal response elements?	<input type="checkbox"/>	<input type="checkbox"/>
8. Was the release or threatened release involving an unknown material or contains an unknown hazardous constituent?	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the incident a threatened release (a condition creating a substantial probability of harm that requires immediate action to prevent, reduce, or mitigate damages to persons, property, or the environment)?	<input type="checkbox"/>	<input type="checkbox"/>
10. Is there an increased potential for secondary effects including fire, explosion, line rupture, equipment failure, or other outcomes that may endanger or cause exposure to employees, the general public, or the environment?	<input type="checkbox"/>	<input type="checkbox"/>

If the answer is YES to any of the above questions – report the release to the California Office of Emergency Services at 800-852-7550 and the local CUPA daytime: (619) 338-2284, after hours: (858) 565-5255. Note: other state and federal agencies may require notification depending on the circumstances.

Call 911 in an emergency

If all answers are NO, complete a Non Reportable Release Incident Form (page 2 of 2) and keep readily available. Documenting why a “no” response was made to each question will serve useful in the event questions are asked in the future, and to justify not reporting to an outside regulatory agency.

If in doubt, report the release.

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 <input type="checkbox"/> Yes <input type="checkbox"/> No
Incident Date / Time:		
Incident Business / Site Name:		
Incident Address:		
Other Locators (Bldg, Room, Oil Field, Lease, Well #, GIS)		
Please describe the incident and indicate specific causes and area affected. Photos Attached?: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Indicate actions to be taken to prevent similar releases from occurring in the future.		

2. ADMINISTRATIVE INFORMATION

Supervisor in charge at time of incident:	Phone:
Contact Person:	Phone:

3. CHEMICAL INFORMATION

Chemical	Quantity <input type="checkbox"/> GAL <input type="checkbox"/> LBS <input type="checkbox"/> FT ³
Chemical	Quantity <input type="checkbox"/> GAL <input type="checkbox"/> LBS <input type="checkbox"/> FT ³
Chemical	Quantity <input type="checkbox"/> GAL <input type="checkbox"/> LBS <input type="checkbox"/> 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
D	CHECK IF CHEMICAL IS LISTED IN 40 CFR 355, APPENDIX A <input type="checkbox"/>	CHECK IF RELEASE REQUIRES NOTIFICATION UNDER 42 U.S.C. Section 9603 (a) <input type="checkbox"/>	
D	PHYSICAL STATE CONTAINED <input type="checkbox"/> SOLID <input type="checkbox"/> LIQUID <input type="checkbox"/> GAS	PHYSICAL STATE RELEASED <input type="checkbox"/> SOLID <input type="checkbox"/> LIQUID <input type="checkbox"/> GAS	QUANTITY RELEASED
D	ENVIRONMENTAL CONTAMINATION <input type="checkbox"/> AIR <input type="checkbox"/> WATER <input type="checkbox"/> GROUND <input type="checkbox"/> OTHER	TIME OF RELEASE	DURATION OF RELEASE — DAYS — HOURS — MINUTES
E	ACTIONS TAKEN		
F	KNOWN OR ANTICIPATED HEALTH EFFECTS (Use the comments section for addition information)		
	<input type="checkbox"/> ACUTE OR IMMEDIATE (explain) _____		
	<input type="checkbox"/> CHRONIC OR DELAYED (explain) _____		
	<input type="checkbox"/> NOTKNOWN (explain) _____		
G	ADVICE REGARDING MEDICAL ATTENTION NECESSARY FOR EXPOSED INDIVIDUALS		
H	COMMENTS (INDICATE SECTION (A - G) AND ITEM WITH COMMENTS OR ADDITIONAL INFORMATION)		
I	CERTIFICATION: I certify under penalty of law that I have personally examined and I am familiar with the information submitted and believe the submitted information is true, accurate, and complete.		
	REPORTING FACILITY REPRESENTATIVE (print or type) _____		
	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

Sewer Mains and Manhole Rehabilitation Sample Data Templates

APPENDIX J

Sample Archaeology Invoice

(FOR ARCHAEOLOGY ONLY)

Company Name

Address, telephone, fax

Date: Insert Date

To: Name of Resident Engineer
City of San Diego
Field Engineering Division
9485 Aero Drive
San Diego, CA 92123-1801

Project Name: Insert Project Name

SAP Number (WBS/IO/CC): Insert SAP Number

Drawing Number: Insert Drawing Number

Invoice period: Insert Date to Insert Date

Work Completed: Bid item Number – Description of Bid Item – Quantity – Unit Price– Amount

Detailed summary of work completed under this bid item: Insert detailed description of Work related to Archaeology Monitoring Bid item. See Note 1 below.

Summary of charges:

Description of Services	Name	Start Date	End Date	Total Hours	Hourly Rate	Amount
Field Archaeologist	Joe Smith	8/29/2011	9/2/2011	40	\$84	\$3,360
Laboratory Assistant	Jane Doe	8/29/2011	9/2/2011	2	\$30	\$60
Subtotal						\$3,420

Work Completed: Bid item Number – Description of Bid Item – Quantity – Unit Price– Amount

Detailed summary of work completed under this bid item: Insert detailed description of Work related to Archaeology Curation/Discovery Bid item. See Note 2 below.

Summary of charges:

Description of Services	Where work occurred (onsite vs offsite/lab)	Name	Start Date	End Date	Total Hours	Hourly Rate	Amount
Field Archaeologist		Joe Smith	8/29/2011	9/2/2011	40	\$84	\$3,360
Laboratory Assistant		Jane Doe	8/29/2011	9/2/2011	2	\$30	\$60
Subtotal							\$3,420

Total this invoice: \$ _____

Total invoiced to date: \$ _____

Note 1:

For monitoring related bid items or work please include summary of construction work that was monitored from Station to Station, Native American monitors present, MMC coordination, status and nature of monitoring and if any discoveries were made.

Note 2:

For curation/discovery related bid items or work completed as part of a discovery and curation process, the PI must provide a response to the following questions along with the invoice:

1. Preliminary results of testing including tentative recommendations regarding eligibility for listing in the California Register of Historical Resources (California Register).
 - a. Please briefly describe your application (consideration) of all four California Register criteria.
 - b. If the resource is eligible under Criterion D, please define the important information that may be present.
 - c. Were specialized studies performed? How many personnel were required? How many Native American monitors were present?
 - d. What is the age of the resource?
 - e. Please define types of artifacts to be collected and curated, including quantity of boxes to be submitted to the San Diego Archaeological Center (SDAC). How many personnel were required? How many Native American monitors were present?
2. Preliminary results of data recovery and a definition of the size of the representative sample.
 - a. Were specialized studies performed? Please define types of artifacts to be collected and curated, including quantity of boxes to be submitted to the SDAC. How many personnel were required? How many Native American monitors were present?
3. What resources were discovered during monitoring?
4. What is the landform context and what is the integrity of the resources?
5. What additional studies are necessary?
6. Based on application of the California Register criteria, what is the significance of the resources?
 - a. If the resource is eligible for the California Register, can the resource be avoided by construction?
 - b. If not, what treatment (mitigation) measures are proposed? Please define data to be recovered (if necessary) and what material will be submitted to the SDAC for curation. Are any specialized studies proposed?

(After the first invoice, not all the above information needs to be re-stated, just revise as applicable).

APPENDIX K

Specification Requirements for Pressure Reducing Station Instrumentation

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 City shall configure the radios and provide PLC program development.
- C. Responsibilities
 - 1. The CONTRACTOR, through the use of a qualified Instrumentation Subcontractor or vendor and qualified electrical and mechanical installers, shall be responsible to the OWNER for the implementation of the I&C and the integration of the I&C with other required instrumentation and control devices.
 - 2. Due to the complexities associated with the interfacing of numerous control system devices, the Instrumentation Subcontractor or vendor shall be responsible to the CONTRACTOR for the integration of the I&C with existing devices and devices provided under other Sections and provide a completely-integrated control system free of signal incompatibilities.
 - 3. As a minimum, the Instrumentation Subcontractor or vendor shall perform the following work:
 - a. Implementation of the I&C:
 - (1) Prepare shop drawing submittals
 - (2) Design, develop, and electronically draft loop drawings and control panel designs
 - (3) Prepare the test plan, the training plan, and the spare parts submittals
 - (4) Procure hardware
 - (5) Fabricate panels
 - (6) Perform factory tests on panels
 - (7) Perform bench calibration and verify calibration after installation
 - (8) Oversee and certify installation
 - (9) Oversee, document, and certify loop testing

- (10) Oversee, document, and certify system commissioning
 - (11) Conduct the performance test
 - (12)
 - (13) [Conduct training classes]
 - (14) Prepare record drawings
 - (15) Prepare calibration sheets
 - (16) Certify the installation of the I&C
- b. Integration of the I&C with instrumentation and control devices being provided under other Sections:
- (1) Develop all requisite loop drawings and record loop drawings associated with equipment provided under other Divisions and OWNER-furnished and existing equipment.
 - (2) Resolve signal, power, or functional incompatibilities between the I&C and interfacing devices.
4. Instrumentation Subcontractor or vendor responsibilities in addition to the items identified above shall be at the discretion of the CONTRACTOR. Additional requirements in this Section 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 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 16050 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/SA S 5.1 Instrumentation Symbols and Identification
 2. ISA-S20 Specification Forms for Process Measurement and Control Instruments

1.4 CONTRACTOR SUBMITTALS

- A. General: Submittals shall be furnished in accordance with the contract documents and 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. Presubmittal Conference:
1. Arrange and conduct a Presubmittal Conference within 30 days after award of the contract. The purpose of the Presubmittal Conference is to review and approve the manner in which the CONTRACTOR intends to carry out its responsibilities for shop drawing submittal on the Work to be provided under this Section. The CONTRACTOR, the Instrumentation Subcontractor or vendor, and the ENGINEER shall attend. Both the CONTRACTOR and the ENGINEER may invite additional parties at their discretion.
 2. Allow one, 8-hour days for the Presubmittal Conference.
 3. Submit 3 copies of the following items for discussion at the Presubmittal Conference:
 - a. A list of equipment and materials required for the I&C and the manufacturer's name and model number for each proposed item.
 - b. A list of proposed clarifications to the Contract Documents along with a brief explanation of each. Resolution shall be subject to a separate formal submittal and review by the ENGINEER.

- c. A sample of each type of submittal specified herein.
 - d. A flow chart showing the steps to be taken in preparing and coordinating each submittal.
 - e. A bar-chart type schedule for all system related activities from the Presubmittal Conference through start-up and training. Dates of submittals, design, fabrication, programming, factory testing, deliveries, installation, field testing, and training shall be shown. The schedule shall be subdivided to show activities relative to each major item or group of items when everything in a given group is on the same schedule.
 - f. An overview of the proposed training plan. The ENGINEER will review the overview and may request changes. All changes to the proposed training shall be resolved at the Presubmittal Conference. The overview shall include the following for each proposed course:
 - (1) Course title and objectives.
 - (2) Prerequisite training and experience of attendees.
 - (3) Course content - a topical outline.
 - (4) Course duration.
 - (5) Course format - lecture, laboratory demonstration, etc.
 - g. A preliminary copy of the Instrumentation Subcontractor Qualification submittal.
4. Take minutes of the Presubmittal Conference, including all events, questions, and resolutions. Before adjournment, all parties must concur with the accuracy of the minutes and sign accordingly.
- C. Shop Drawings:
- 1. General:
 - a. Preparation of shop drawings shall not start until adjournment of the Presubmittal Conference.
 - b. 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.
 - c. 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.
 - d. 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.

- e. 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 Instrument Submittal: Submit the instrument submittal as a complete bound package at one time within 60 calendar days after the commencement date stated in the Notice to Proceed, including:
- a. A complete index that lists each device by tag number, type, and Manufacturer. A separate technical brochure or bulletin shall be included with each instrument data sheet. The data sheets shall be indexed in the submittal by systems or loops, as a separate group for each system or loop. If, within a single system or loop, a single instrument is employed more than once, one data sheet with one brochure or bulletin may cover all identical uses of that instrument in that system. Each brochure or bulletin shall include a list of tag numbers for which it applies. System groups shall be separated by labeled tags.
 - b. Fully executed data sheets according to ISA-S20 - Specification Forms for Process Measurement and Control Instruments, Primary Elements and Control Valves, for each component, together with a technical product brochure or bulletin. The technical product brochures shall be complete enough to verify conformance to all Contract Document requirements. The data sheets, as a minimum, shall show:
 - (1) Component functional description used in the Contract Documents
 - (2) Manufacturer's model number or other product designation
 - (3) Project tag number used in the Contract Documents
 - (4) Project system or loop of which the component is a part
 - (5) Project location or assembly at which the component is to be installed
 - (6) Input and output characteristics
 - (7) Scale, range, units, and multiplier (if any)
 - (8) Requirements for electric supply (if any)
 - (9) Requirements for air supply (if any)
 - (10) Materials of component parts to be in contact with or otherwise exposed to process media and corrosive ambient air
 - (11) Special requirements or features
 - c. Flow Meter Sizing Calculations: Calculations shall be submitted on the Instrument Manufacturer letterhead and shall include the following:

- (1) Proposed flow meter size based on indicated minimum, maximum and average flow rates
 - (2) Guaranteed flow meter accuracy based on the upstream and downstream straight runs associated with the location of each flow meter
 - (3) Permanent head loss associated with each flow meter
 - (4) Flow vs. differential pressure curves for all head-type devices. For compressible fluids, curves shall be pressure and temperature compensated.
 - (5) References to ASME and ISA standard equations used
 - (6) Values used for all parameters used in calculations
- d. Calibration sheets in accordance with Subsection 13300-1.4C5.
- e. Priced list of all spare parts for all devices
- f. Instrument installation, mounting, and anchoring details shall be submitted in an electronic INTERGRAPH MICROSTATION format and hard copy format. Each instrument shall have a dedicated 8-1/2" X 11" detail that pertains to the specific instrument by tag number. Instruments that share the same installation detail shall be tabulated by tag numbers on the same detail sheet. As a minimum, each detail shall have the following content:
- (1) Show all necessary sections and elevation views required to define instrument location by referencing tank, building or equipment names and numbers, and geographical qualities such as north, south, east, west, basement, first floor.
 - (2) Ambient temperature and humidity of the environment where the instrument will be installed.
 - (3) Corrosive qualities of the environment where the instrument will be installed.
 - (4) Hazardous rating of the environment where the instrument will be installed.
 - (5) Process line pipe or tank size, service and material.
 - (6) Process tap elevation and location
 - (7) Upstream and downstream straight pipe lengths between instrument installation and pipe fittings and valves.
 - (8) Routing of tubing and identification of supports.
 - (9) Mounting brackets, stands, and anchoring devices.

- (10) Conduit entry size, number, location, and delineation between power and signal.
 - (11) NEMA ratings of enclosures and all components.
 - (12) Clearances required for instrument servicing.
 - (13) List itemizing all manufacturer makes, model numbers, quantities, lengths required, and materials of each item required to support the implementation of the detail.
- 3 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.
 - (6) 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 summary shall be prepared with Lotus 1-2-3 software and shall be submitted on 3-1/2-inch floppy disks and hard copy. The instrument summary shall list all of the key attributes of each instrument provided under this Contract. As a minimum, attributes shall include:
 - (1) Tag number
 - (2) Manufacturer
 - (3) Model number
 - (4) Service
 - (5) Area location
 - (6) Calibrated range
 - (7) Loop drawing number
 - (8) Associated LCP, PLC, PCM, or RTU
- 4 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.
- 5 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
- 6 Training Submittals: Subsequent to the receipt of the CONTRACT MANAGER's input made at the Presubmittal Conference, the CONTRACTOR shall submit a training plan that includes:
- a. A resubmittal of the training plan overview from the Presubmittal Conference with incorporation of all modifications agreed upon at that meeting.
 - b. Schedule of training courses including dates, durations, and locations of each class.
 - c. 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 in compliance with the contract documents shall be organized as follows for each process:
 - a. Section A - Process and Instrumentation Diagrams
 - b. Section B - Loop Descriptions
 - c. Section C - Loop Drawings
 - d. Section D - Instrument Summary
 - e. Section E - Instrument Data Sheets
 - f. Section F - Sizing Calculations
 - g. Section G - Instrument Installation Details
 - h. Section H - 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.
4. Start-up of systems shall begin no sooner than 15 days after final approval of the I&C operations and maintenance information provided in compliance with the contract documents.

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.

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.

PART 2 -- 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 brought to the attention of the Resident Engineer.
- 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 convertors 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 control panels shall be provided with redundant power supplies that are configured in a fault-tolerant manner to prevent interruption of service upon failure and interruption of service necessitated by the replacement of a power supply. All power supplies shall have an excess rated capacity of 40%. The failure of a power supply shall be annunciated at the control panel and repeated to the SCADA System.

- J. Alternative Equipment and Methods: Equipment or methods requiring redesign of any project details are not acceptable without prior written approval of the ENGINEER. Any proposal for approval of alternative equipment or methods shall include evidence of improved performance, operational advantage and maintenance enhancement over the equipment or method indicated, or shall include evidence that an indicated component is not available.

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 - water treatment or pumping facility
 - 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 ELECTRONIC PRESSURE TRANSMITTERS

- A. Electronic pressure transmitters shall consist of a capsule assemble, bottom works, vent plug, drain plug, cover flange, process connector and connection, amplifier unit, integral indicator, terminal box with cover, block and bleed valves, and conduit connections. Pressure applied to the transmitter shall be transmitted by a sealed fill fluid to both sides of a sensing diaphragm. The sensing diaphragm and the sensor body shall function as the moving and fixed electrodes of a differential capacitor respectively. As the applied pressure causes the diaphragm to move, the capacitance of the cell shall change. The amplifier unit shall convert the change in capacitance to a 4-20 mA DC signal, wire type, with an allowable loop load of no less than 600 ohms. Static pressure rating shall be a minimum of 500 psig. The maximum over-range pressure limit shall be a minimum of 150% of the minimum range. Span shall be adjustable over a minimum of 5:1 range: External adjustments shall include zero and span. Damping shall be provided as an internal adjustment. All equipment shall be suitable for an ambient operating range of -40 to + 212 degrees F. All wetted parts shall be constructed of Type 316 stainless steel. All block and bleed valves shall be constructed of Type 316 stainless steel. The integral indicator shall be calibrated in process units. Power supply shall be 24 VDC. Accuracy, including linearity and repeatability, shall be a plus or minus 0.1% of span.

- B. The table below of electronic pressure transmitters shall be provided. CONTRACTOR should not consider this a complete Bill of Materials and must provide all equipment necessary for complete working systems. Electronic gauge pressure transmitters shall be Smar Model 301.

Tag No.	Range	Body/Bolt Material	Fill Fluid	Process Connection	NEMA Rating
PIT	0-200 psi	316 SS	Silicone	1/2" NPT	4

2.5 PRESSURE SWITCH

- A. Where adjustable pressure switches are indicated, units shall be diaphragm actuated, dual adjustment pressure switches with SPDT contacts rated for a minimum of 5 A at 120 VAC. The dead band shall be adjustable up to 60% of full scale. Set points shall fall between 20 and 80% of the adjustable range. The diaphragm shall be Buna-N, and the lower housing shall be brass with a 3/8-inch bottom sensing connection, unless otherwise indicated.
- B. The table below of adjustable differential pressure switches shall be provided. CONTRACTOR should not consider this a complete Bill of Materials and must provide all equipment necessary for complete working systems. Products shall be Static-O-Ring, United Electric Series 300, or equal.

Tag No.	Setpoint	NEMA Rating
PSH	50 psi	4

2.6 SUBMERSIBLE TYPE PRESSURE/LEVEL TRANSMITTER

- A. Pressure/level transmitter shall be a sealed stainless-steel diffused silicon transducer that shall generate an electronic analog signal proportional to pressure/level and shall transmit the analog signal via a shielded cable.
- B. The pressure/level transmitter output shall be a true 2-wire device with 24-volt dc power being derived from the control panel. No separate power supply shall be required at the transmitter.
- C. The transmitter output shall be 4 to 20 ma dc into a load of 0 to 450 ohms maximum.
- D. The submersible transmitter's titanium housing shall be waterproof.
- E. Overall accuracy shall be within 0.25% of span.
- F. Ambient temperature limits shall be -40 °C to 60 °C.

- G. Provide all necessary mounting hardware, conduit adapter, remote transducer cable, and shutoff valves.
- H. Suspended transmitters shall be provided with a Kevlar reinforced polyurethane cable or separate stainless steel support cable. The sensor cable shall be of sufficient length so no splice or connector is required in the set or inaccessible area, and the vent tube termination point is located in an area protected from dirt and moisture.
- I. Submersible level transmitter cable shall be without splices and marked off every foot with a permanent marker indicating the length of actual cable that is submersed.
- K. The pressure/level transmitter shall be ranged in engineering units as shown on drawings.
- L. The pressure/level transmitter shall have a 5 year corrosion warranty.
- M. The pressure/level transmitter shall be located 5 feet above the pump.
- N. Submersible transmitters shall be Druck PTX1830-A262 with internal 100 ohm RTD, no equal. Provide aneroid bellows to prevent moisture from entering and condensing in the vent tube. Manufacturer: KPSI Series 815; or approved equal.

Tag No.	Range	Cable Length
LT	0-75 psi	120 feet

2.7 TEMPERATURE TRANSMITTER

- A. Acceptable manufacturers:
 - 1 Smar, Model TT301
- B. Materials:
 - 1 Housing: Aluminum.
 - 2 Painting: Gray Munsell N 6,5 Polyester
- C. Design and fabrication:
 - 1 Smart transmitter utilizing microprocessor based electronics.
 - 2 Input: 385 platinum 100 ohm 4 wire RTD
 - 3 Transmitter inaccuracy shall be in accordance with the following:
 - a. 100 ohm platinum RTD input: +/-0.2 DegF +0.03 percent of span, whichever is greater.

- 4 Stability:
 - b. Greater of: +/-0.1 percent of reading or 0.1 DegC per 24 months.
- 5 Ambient temperature effects:
 - c. 100 platinum RTD input: +/-0.03% of the input resistance or 0.04 ohms whichever is greater
- 6 Ambient temperature limits:
 - d. -40 to 185 Deg F
 - b. Integral LCD meter: -4 to 176 Deg F
- 7 Output: 4-20 mA DC signal linearly proportional to temperature with HART super-imposed
- 8 Power supply: 24 Vdc
- 9 Adjustable span
- 10 Adjustable zero
- 11 Digital Indicator
 - e. Up Scale
- 12 316 SST Bracket

D. The following RTD measuring systems shall be provided:

Tag No.	Range	Sensor Type	Well Required	NEMA Rating
TIT	20-70° F	385 Platinum 100 ohm 4 wire RTD	No	4

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 MANUFACTURER'S SERVICES

- A. Manufacturer's services shall be furnished for the following equipment:
 - 1. All flow meters in new or potable water streams that relate to process control, mass balance calculations, and billing of customers.
 - 2. All process analyzers
 - 3. All hazardous gas detection equipment
 - 4. Instruments that require specialized knowledge, such as vibration detectors.
- B. Furnish the following Manufacturer's services for the instrumentation listed above:
 - 1. Perform bench calibration
 - 2. Oversee installation
 - 3. Verify installation of installed instrument
 - 4. Certify installation and reconfirm Manufacturer's accuracy statement
 - 5. Oversee loop testing, prepare loop validation sheets, and certify loop testing
 - 6. Oversee precommissioning, prepare precommissioning validation sheets, and certify precommissioning
 - 7. Train the OWNER's personnel

3.3 INSTALLATION

A. General:

1. All instrumentation, including instrumentation furnished under other Divisions, shall be installed under Division 13 and the manufacturers' instructions.
2. Equipment Locations: The monitoring and control system configurations indicated are diagrammatic. The locations of equipment are approximate. The exact locations and routing of wiring and cables shall be governed by structural conditions and physical interferences and by the location of electrical terminations on equipment. All equipment shall be located and installed so that it will be readily accessible for operation and maintenance. Where job conditions require reasonable changes in approximated locations and arrangements, or when the OWNER exercises the right to require changes in location of equipment that do not impact material quantities or cause material rework, make such changes without additional cost to the OWNER.

B. Conduit, Cables, and Field Wiring

1. All conduit shall be provided under Division 16.
2. All 4-20 mA signal circuits, process equipment control wiring, signal wiring to field instruments, SCADA and PLC input and output wiring and other field wiring and cables shall be provided under Division 16.
3. All SCADA and PLC equipment cables, data highway communication networks shall be provided under Division 13.
4. All terminations and wire identification at I&C equipment furnished under this or any other Division shall be provided under Division 13.

C. Instrumentation Tie-Downs: All instruments, control panels, and equipment shall be anchored by methods that comply with seismic requirements that apply to the site.

D. Ancillary Devices: The Contract Documents show all necessary conduit and instruments required to make a complete instrumentation system. The CONTRACTOR shall be responsible for providing any additional or different type connections as required by the instruments and specific installation requirements at no additional cost to the OWNER. All such additions and all such changes, including the proposed method of installation, shall be submitted to the ENGINEER for approval before commencing the Work. Such changes shall not be a basis of claims for extra work or delay.

E. Installation Criteria and Validation: All field-mounted components and assemblies shall be installed and connected according to the requirements below:

1. Installation personnel have been instructed on installation requirements of the Contract Documents.
2. Technical assistance is available to installation personnel at least by telephone.

3. Installation personnel have at least one copy of the approved shop drawings and data.
4. Instrument process sensing lines shall be installed similar to conduit specified under Section 16050 - Basic Electrical Materials and Methods. Individual tubes shall run parallel and near the surfaces from which they are supported. Supports shall be used at intervals of not more than 3 feet of rigid tubing.
5. Bends shall be formed to uniform radii with the proper tool without deforming or thinning the walls of the tubing. Plastic clips shall be used to hold individual plastic tubes parallel. Ends of tubing shall be square-cut and cleaned before being inserted in the fittings. Bulkhead fittings shall be provided at all panels requiring pipe or tubing entries.
6. All differential pressure elements shall have three valve manifolds.
7. All flexible cables and capillary tubing shall be installed in flexible conduits. The lengths shall be sufficient to withdraw the element for periodic maintenance.
8. All power and signal wires shall be terminated with crimped type lugs.
9. All connectors shall be, as a minimum, water tight.
10. All wires shall be mounted clearly with an identification tag that is of a permanent and reusable nature.
11. 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.
12. All mounting stands and bracket materials and workmanship shall comply with requirements of the Contract Documents.
13. 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.
14. The OWNER will not be responsible for any additional cost of rework attributable to actions of the CONTRACTOR or the Instrumentation Subcontractor.

3.4 CALIBRATION

- A. General: All devices provided under the instrumentation sections shall be calibrated according to the manufacturer's recommended procedures to verify operational readiness and ability to meet the indicated functional and tolerance requirements.

- B. Calibration Points: Each instrument shall be calibrated at 20, 40, 60, 80 and 100% of span using test instruments to simulate inputs. The test instruments shall have accuracies traceable to National Institute of Testing Standards.
- C. Bench Calibration: Instruments that have been bench-calibrated shall be examined in the field to determine whether any of the calibrations are in need of adjustment. Such adjustments, if required, shall be made only after consultation with the ENGINEER.
- D. Field Calibration: Instruments that were not bench-calibrated shall be calibrated in the field to insure proper operation in accordance with the instrument loop diagrams or specification data sheets.
- E. Calibration Tags: A calibration and testing tag shall be attached to each piece of equipment or system at a location determined by the ENGINEER. Have the Instrumentation Supplier sign the tag when calibration is complete. The ENGINEER will sign the tag when the calibration and testing has been accepted.

3.5 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. Interlocks: All hardware and software interlocks between the instrumentation and the motor control circuits, control circuits of variable-speed controllers and packaged equipment controls shall be checked to the maximum extent possible.
- C. 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.
- D. Loop Validation: Controllers and electronic function modules shall be field tested and exercised to demonstrate correct operation. All control loops shall be checked under simulated operating conditions by impressing input signals at the primary control elements and observing appropriate responses of the respective control and monitoring elements, final control elements, and the graphic displays associated with the SCADA and PLC. Actual signals shall be used wherever available. Following any necessary corrections, the loops shall be retested. Specified accuracy tolerances for each analog network are defined as the root-mean-square-summation of individual component accuracy requirements. Individual component accuracy requirements shall be as indicated by Contract requirements or by published manufacturer accuracy specifications, whenever Contract accuracy requirements are not indicated. Each analog network shall be tested by applying simulated analog or discrete inputs to the first element of an analog network. For networks that incorporate analog elements, simulated

sensor inputs corresponding to 20, 40, 60, 80 and 100% of span shall be applied, and the resulting element outputs monitored to verify compliance to calculated root-mean-square-summation accuracy tolerance requirements. Continuously variable analog inputs shall be applied to verify the proper operation and setting of discrete devices. Provisional settings shall be made on controllers and alarms during analog loop tests. All analog loop test data shall be recorded on tests that include calculated root-mean-square-summation system accuracy tolerance requirements for each output.

- E. 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

- F. Loop Certifications: When installation tests have been successfully completed for all individual instruments and all separate analog control networks, a certified copy of all test forms signed by the ENGINEER or the ENGINEER representative as a witness, with test data entered, shall be submitted to the ENGINEER together with a clear and unequivocal statement that all instrumentation has been successfully calibrated, inspected, and tested.

3.6 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 CONSTRUCTION MANGER. 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 motor control center and local field mounted control circuits. All hardwired and software control circuit interlocks and alarms shall be operational. The control of final control elements and ancillary equipment shall be tested using both manual and automatic (where provided) control circuits. The stable steady-state operation of final control elements running under the control of field mounted automatic analog controllers or software based controllers shall be assured by adjusting the controllers as required to eliminate oscillatory final control element operation. The transient stability of final control elements operating under the control of field mounted, and software based automatic analog controllers shall be verified by applying control signal disturbances, monitoring the amplitude and decay rate of control parameter oscillations (if any) and making necessary controller adjustments as required to eliminate excessive oscillatory amplitudes and decay rates.
- D. Loop Tuning: All electronic control stations incorporating proportional, integral or differential control circuits shall be optimally tuned, experimentally, by applying control signal disturbances and adjusting the gain, reset, or rate settings as required to achieve a proper response. Measured final control element variable position/speed set point settings shall be compared to measured final control element position/speed values at 20, 40, 60, 80 and 100% of span and the results checked against indicated accuracy tolerances.
- E. Precommissioning Validation Sheets: Precommissioning shall be documented on one of two types of test forms as follows:
1. For functions that can be demonstrated on a loop-by-loop basis, the form shall include:
 - a. Project name
 - b. Loop number
 - c. Loop description
 - d. Tag number, description, manufacturer and data sheet number for each component.

- e. Space for sign-off and date by both the Instrumentation Subcontractor and ENGINEER.
2. For functions that cannot be demonstrated on a loop-by-loop basis, the test form shall be a listing of the specific tests to be conducted. With each test description the following information shall be included:
- a. Specification page and paragraph of function demonstrated
 - b. Description of function
 - c. Space for sign-off and date by both the Instrumentation Subcontractor and ENGINEER.
- F. Precommissioning Certification: Submit an instrumentation and control system precommissioning completion report that shall state that all Contract requirements have been met and shall include a listing of all instrumentation and control system maintenance and repair activities conducted during the precommissioning testing. Acceptance of the instrumentation and control system precommissioning testing must be provided in writing by the ENGINEER before the performance testing may begin. Final acceptance of the control system shall be based upon plant completion as stated in the General Conditions.

3.7 ONSITE SUPERVISION

- A. Furnish the services of an on-site service engineer to supervise and coordinate installation, adjustment, testing, and start-up of the I&C. The ENGINEER will be present during the total period required to affect a complete operating system. A qualified team of the Instrumentation Subcontractor personnel shall be on site for [] hours to check all equipment, perform the tests indicated in this Section, and furnish startup services.

3.8 PERFORMANCE TEST

- A. The entire I&C shall operate for 30 days without failure.
- B. Furnish all necessary support staff as required to operate the system and to satisfy the repair or replacement requirements.
- C. If any component fails during the performance test, it shall be repaired or replaced and the I&C shall be restarted on another 30-day period.

3.9 TRAINING

- A. General: Train the OWNER's personnel on the maintenance, calibration and repair of all instruments provided under this Contract.
- B. Instructions: The training shall be performed by qualified representatives of the equipment manufacturers and shall be specific to each piece of equipment.
- C. Duration: Each training class shall be a minimum of 8 hours in duration and shall cover, as a minimum, operational theory, maintenance, troubleshooting/repair, and calibration of instruments.

- D. Schedule: Training shall be performed during the precommissioning phase of the project. The training sessions shall be scheduled a minimum of 3 weeks in advance of when the courses are to be initiated. The ENGINEER will review the course outline for suitability and provide comments that shall be incorporated.
- E. Agenda: The training shall include operation and maintenance procedures, trouble shooting with necessary test equipment, and changing set points, and calibration for that specific piece of equipment.
- F. Documentation: Within 10 days after the completion of each session the CONTRACTOR shall submit the following:
 - 1. List of all OWNER personnel who attended the session.
 - 2. Evaluation of OWNER personnel via written testing or equivalent evaluation.
 - 3. Copy of the training materials used including all notes, diagrams, and comments.

3.10 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

1.4 CONTRACTOR SUBMITTALS

- A. Shop drawings shall be submitted in accordance with the contract documents.
- 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. Control sequence diagrams to portray the contact positions or connections required to be made for each successive step of the control action. Written descriptions explaining the control sequence diagrams and system operation shall be furnished.
9. 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.
10. A bill of material which enumerates all devices associated with the control panel.
11. A priced listing of analog 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.

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 24 VDC. Control conductors shall be provided in accordance with the indicated requirements.
- C. The main feeder disconnect shall have a door-mounted handle unless otherwise indicated.
- D. Control panels shall be housed in NEMA 4X enclosures with gasketed doors. Control panels shall be freestanding or pedestal-mounted as indicated. Internal control components shall be mounted on an internal back-panel or side-panel as required.
- E. 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. F. 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.
- G. 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.
- H. All control panel mounted devices shall be mounted a minimum of 3 feet above finished floor elevation.
- I. Painting: Control panels shall be thoroughly cleaned and sand blasted per Steel Structures Painting Council Specification SSPC-SP-6 (Commercial Blast) after which surfaces shall receive a prime coat of Amercoat 185 or equal 3-mils dry, for a total thickness of the complete system of 6 mils. The finished color of the outside surfaces shall be selected by the ENGINEER, unless otherwise indicated. The interior of the control panel, back-panel, and side-panel(s) shall have a white finish coat.

2.2 CONTROL PANELS

A. Materials:

1. Panel section faces shall be No. 10 gauge minimum thickness steel for free standing panels and No. 14 gauge minimum thickness steel for wall mounted or pedestal mounted panels. All materials shall be selected for levelness and smoothness.
2. Relay rack high density type panels shall use standard relay racks with No. 14 gauge steel frame and supports.
3. Structural shapes and strap steel shall comply with ASTM A283.
 - a. Bolting Material: Commercial quality carbon steel bolts, nuts and washers, shall be 2-inch diameter with UNC threads. Carriage bolts shall be used for attaching end plates. All other bolts shall be hex head machine bolts. All nuts shall be hot pressed hex, American Standard, heavy. Standard wrought washers shall be used for foundation bolts and attachments to building structures. All other bolted joints shall have SAE standard lock washers.
4. Construction: Dimensions shall be in accordance with vendor's requirements. Elevations and horizontal spacing shall be subject to ENGINEER's approval.

B. Fabrication:

1. End plates, top plates and top closure panels (to hung ceiling) shall be provided when required by the material requisition. End plates, top plates and top closure panels shall be removable with countersunk bolts to match panels. Top closure panels shall be provided in lengths which match the widths of standard panels, except that one top closure panel may extend across two 4-foot 6-inches wide or five 2-foot wide standard panels. The vertical joints of these panels shall align with the vertical joints of the standard panels.
2. End closure or rear closure doors shall be provided where required. Such doors shall be flush fitting, gasketed, and be of the hinged lift-off type with lockable door handles. A common key shall be provided for all doors on one panel assembly. Removable access panels shall be provided with dished handle fasteners. Screw driver 1/4 turn or Dzus type fasteners are not acceptable.
 - a. The flanged edges of all panels shall be straight and smooth. Corners shall be welded and ground smooth.
 - b. The face of the panel shall be true and level after flanging.
 - c. All panel cut-outs and holes may be cut or drilled by any standard method that does not cause deformation. Burrs shall be ground smooth.
 - d. Adjacent panels shall be assembled with faces flush. Gaps or cracks shall not be visible from the front of the assembled instrument board.

- e. Stiffeners shall be welded to the back of panels as required to prevent panel deformation due to the weight of face mounted instruments.
- f. Panels shall be self-supporting as defined below.

C. Frameworks and Supports:

1. The rear of each panel section shall have a steel framework assembled to it for supporting conduit, wireways, switches, piping, and all instrument accessory items such as relay or terminal enclosures, transducers, pressure switches, valves, and air relays. The main framework shall be constructed of standard structural shapes. Special shapes such as "Unistrut" may be used for secondary supports. The framework shall neither interfere with instrument connections nor interfere with access needed for maintenance or adjustments.
2. The steel framework shall extend 2 feet 4 inches back from the panel face, or as indicated in the material requisition. Where indicated, individual adjustable leg supports shall be provided at the back of the framework so that the entire panel is self-supporting.

D. Preparation of Panel Surface:

1. The following requirements apply to the front and rear face of the panel, both sides and the edges of all flanges, and the periphery of all holes or cut-outs:
 - a. All high spots, burrs, and rough spots shall be ground smooth.
 - b. The surfaces shall be sanded or sandblasted to a smooth, clean bright finish.
 - c. All traces of oil shall be removed with a solvent.
 - d. The first coat of primer shall be applied immediately.

E. Panel Finishing:

1. A thin coat primer surface shall be applied over the entire panel surface.
2. Wet sand, dry, then quick glaze spot putty on the front of the panel only. Dry, then wet sand again and dry.
3. A primer surface shall be applied on the front of the panel only.
4. Wet sand to smooth clear finish, then dry.
5. At least two coats of air-dry, satin finish, lacquer enamel shall be applied over the entire surface. Color shall be as approved by ENGINEER. Finish shall be suitable for high UV exposure.
6. Furnish two one-pint containers of air drying, matching paint for field touch-up of the panel face.

- F. Instrument Finishing: The final coats applied to painted surface of instrument cases, doors, or bezels which are visible from the front of panels shall be manufacturer's standard unless otherwise indicated. Black japan or "crinkle" finishes on instrument cases are not acceptable.
- G. Mounting of Instruments:
1. The panel vendor shall provide cut-outs and shall mount all instrument items indicated to be panel mounted, including any instruments indicated to be furnished by other vendors but installed in panel (if applicable).
 2. The panel vendor shall also mount behind the panels other instrument accessory items as required for functionality or as indicated.
 3. Equipment mounted at the rear of panel shall be installed to allow for commissioning adjustments, servicing requirements, and cover removal.
 4. Spare space shall be kept clear of wiring to give maximum space for future additions.
- H. Electrical Requirements:
1. Conduit, wireways, switches, wire, and electrical fittings shall be provided for all 115 V circuits to instruments and other electrical devices as required for a complete and operable installation.
 2. Conduit, wireways, junction boxes, and fittings shall be provided for all signal wire, thermocouple, or resistance thermometer lead wire. Conduit or wireway runs shall include those required between temperature sensors and temperature transmitters and between the thermocouple wireway or junction box to instruments.
 3. Each terminal connection shall have a plastic plate with a terminal and instrument tag number. All wiring shall be identified with stamped tubular wire and markers.
 4. Freestanding panels shall be provided with switched 100-W incandescent back-of-panel lights. One light shall be provided for every 4 feet of panel width and shall be mounted inside and in the top of the back-of-panel area.
 5. Freestanding panels 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. Wall mounted or pedestal mounted panels mounted outside or in unshaded areas shall be provided with thermostatically controlled heaters that maintain inside temperature above 40 degrees F.

8. A hand switch controlled 100-W incandescent light and a breaker protected 120-V, 15-A duplex receptacle shall be provided within each wall mounted or pedestal mounted panel.
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. 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.
12. 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.

- 13. 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.

14. Signal Wiring:

- a. Signal Wire - Non Computer Use:

- (1) Signal wire shall be twisted pair or triads in conduit or troughs. Cable shall be constructed of No. 16 AWG copper signal wires with THWN or THHN insulation.

- (2) Color code for instrument signal wiring shall be as follows:

- Positive (+): Black
 - Negative (-): White

- (3) Multiconductor cables where indicated shall consist of No. 16 AWG copper signal wires twisted in pairs, with 90-C, 600-V fault insulation. A copper drain wire shall be provided for the bundle with a wrap of aluminum polyester shield. The overall bundle jacket shall be PVC.

- b. Multi-conductor cables, wireways and conduit shall be sized to allow for 10% spare signal wire.

- I. Labor and Workmanship: All panels shall be fabricated, piped and wired by fully qualified workmen who are properly trained, experienced, and supervised.

2.3 RCP ENCLOSURE

- A. Enclosures are Hoffman standard enclosures. Enclosures shall be free of damage and exterior blemishes. Enclosures shall be square with the doors seating properly at the gaskets and operating freely. Enclosures are 48@ H X 36@ W X 16@ D single door wall mount NEMA 4X enclosures with the following features:

1. 14 gauge type 304 stainless steel with painted white finish.
2. Seams continuously welded and ground smooth, no holes or knockouts.
3. Type 316L stainless steel padlocking handle with 3-point latch.
4. Gasketed doors.
5. Continuous door hinge length > 90% of door height.
6. Removable full back panel Gloss white finish.
7. All exterior hardware type 316 stainless steel.
8. High-impact thermoplastic data pocket mounted to interior of door.
9. 12 inch type 304 stainless steel floor stand kit with painted white finish.

PART 3 -- EXECUTION

3.1 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.

3.2 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 B
 - c. White: 120vac common
 - d. Black: 120vac power
 - e. Red: 120vac control power
 - f. Green: ground
 - g. Violet: 12vdc +
 - h. Yellow: 12vdc B
 - 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 incandescent lamps operated by a door switch integral to the lamp assembly (Hoffman A-LTDB1). Provide a door switch wired to the terminal blocks, as shown on the drawings, to indicate when the RCP door is open.
- I. Legend plates shall be laminated plastic or phenolic, black over white engraved by removing black material to reveal white letters. Lettering shall be sharp and clear, 3/16" nominal height. Engraving which is not uniform either letter to letter or within each character will not be accepted. Tags identifying interior components shall be affixed to the cabinet back panel.
 - 1. The following interior components shall be labeled with phenolic tags:
 - a. Low voltage relay
 - b. Control relays
 - c. Modicon PLC
 - d. Microwave Data Systems Radio package
 - e. AC line surge arrestor
 - f. DC power supply transformer
 - g. DC power supply
 - h. Each terminal strip

3.3 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 City shall provide PLC program development.

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.

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.

2.2 PROGRAMMABLE LOGIC CONTROLLERS

- A. The microcontroller system and subsystem components shall be Modicon Momentum M1 Series, No "Or Equal".
- B. Construction: The microcontroller shall be of solid-state design. All CPU operating logic shall be contained within an integral control chassis. Microcontroller terminal base units shall allow for the easy removal and replacement of the controller. The controller shall be capable of operating in a hostile industrial environment without fans, air conditioning, or electrical filtering (up to 60 degrees C and 95 percent humidity).

- C. The PLC shall be a Modicon Momentum of the latest design/manufacture, consisting of the following individual components:
1. Modicon Momentum, M1 Processor Adaptor; Part No. 171CCC96030C; Qty. 1.
 2. Modicon Momentum, Modbus (RS232/485) Option Adaptor, with TOD Clock & Battery Backup; Part No. 172JNN21032C; Qty. 1.
 3. Modicon Momentum, Interbus Communications Adapter; Part No. 170INT11000; Qty 1.
 4. Modicon Momentum, 8 Channel 4-20mA Differential Analog Input I/O Base; Part #170AAI03000C; Qty. 1.
 5. Modicon Momentum, 24 VDC 16 point Discrete Input and 24 VDC 16 point Discrete Output I/O Base; Part #170ADM35010C; Qty. 1.
 6. Modicon Momentum, Interbus Cable; Part #170MCI00700; Qty. 1.
 7. Modicon Momentum, Terminal Block; Part #170XTS00100; Qty. 2.

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.

**** END OF SECTION ****

SECTION 13400 - 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 Alvarado Water Treatment Facility Control System (AWTF CCS). The system shall include interface hardware, modules, radio, communication bridges, and application software necessary for a communication network.
- B. The Work, equipment, and services required by this Section shall be provided and furnished by the Communication System Contractor.

1.2 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 16050 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 shall conform to the requirements of the contract documents.

1.5 ENVIRONMENTAL CONDITIONS

- A. The communication systems shall be designed and constructed for operation under the following environmental conditions:
 - 1. Equipment outdoors:
 - a. Temperature range: 40 through 105 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.

[1.7 RECORD DRAWINGS

- A. Accurate drawings of underground antenna cable locations shall be included on the record drawings in the contract documents.

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. In locations where there is no microwave path to one of the five MAS radio repeaters, a 902-928 MHz microwave spread spectrum radio shall be provided to transmit to a remote SCADA location having a path to a repeater. Existing radios may be used to provide multiple paths.
 3. The sites included in this Contract have been surveyed and are included in the radio feasibility study performed by the OWNER. The results of this survey indicate reliable radio communications can be implemented between the central station and remote sites. The report is available to the Communication System Contractor from the ENGINEER.
 4. Before installation of the radio equipment, the Communication System Contractor shall verify that the radio paths are still reliable based on the present terrain and structure conditions. Any structures or other objects that may obstruct the radio paths or cause transmission or path fade margin problems shall be brought to the ENGINEER's attention immediately.
- B. Transmission: RF transmitters shall be directly frequency modulated by a built-in digital modem from the digital data stream furnished by the central computer system. RF receivers shall provide a digital data stream to the central computer system. Each assembly shall be capable of transmitting and receiving data at a rate of 9600 baud over a 928-952 MHz FCC assigned channel.
- C. Fixed Frequency Radio Transceiver at the Repeater Site:
1. The fixed frequency radio at the Repeater Site shall be capable of interfacing with a second radio at the Repeater Site and processing data for transmission via an antenna system to Cowles Mountain. The contractor shall install the fixed frequency radio inside the Repeater Cabinet. The radio equipment and accessories shall be mounted on a single panel supplied by the manufacturer. The radio is an MDS 9710B with P60 package (less P60 enclosure).
 2. The telemetry unit shall include solid-state, FM radio transceivers. Units shall operate on 928-952 MHz multiple address system as assigned by the FCC. Each transmitter shall provide a minimum of RF output of 5 W. TX Frequency 928.03125/RX Frequency 952.03125.
 3. Transmitter frequencies shall be crystal controlled to plus or minus 0.0005% of the assigned carrier frequency over a temperature range of minus 30 degrees C to plus 60 degrees C without the use of heaters. RF power outputs shall be 5 W; and modulation deviations plus or minus 3.0 kHz; transmitter spurious emissions and harmonics shall be more than 60 Db below carrier.
 4. Receivers shall be superheterodyne types employing crystal-controlled local oscillators. Over the specified temperature range, the receivers shall meet the following requirements:
 - a. Sensitivities: SINAD 12dB @ -115dbM.
 - b. Frequency stabilities shall be 0.00015%.

5. Remote site transmitters shall have continuous ratings; repeater and central site transmitters shall have continuous duty cycle ratings.
6. Transceivers shall fully comply with all applicable and current EIA Standards and all current FCC Rules and Regulations. Transceivers shall be FCC type accepted for the application.
7. Transceivers shall use high-quality, long-life transistors and diodes throughout. No tubes shall be used.
8. Transceiver shall be mounted in the Repeater Cabinet.

D. Spread Spectrum Radio Transceiver at the Repeater Site:

1. The spread spectrum radio at the Repeater Site shall be capable of interfacing with a second master radio at the Repeater Site and processing data for transmission via an RS-232 data link to the master radio. The Contractor shall install the spread spectrum radio in the Repeater Cabinet. The radio equipment and accessories shall be mounted on a single panel supplied by the manufacturer. The radio is an MDS 9810 with P60 package (less P60 enclosure).
2. Contractor shall provide and install all necessary cables and connections from the radio equipment to the PLC interface. Proper power supply shall be provided.
3. Provide radio/antenna components as shown on the drawings.

E. Spread Spectrum Radio Transceiver at the Wellhead:

1. The spread spectrum radio at the Wellhead shall be capable of interfacing with the PLC and processing the data for transmission via the antenna system to the Repeater Site. The Contractor shall install the spread spectrum radio in the RCP. The radio equipment and accessories shall be mounted on a single panel supplied by the manufacturer. The radio is an MDS 9810 with P60 package (less P60 enclosure).
2. Contractor shall provide and install all necessary cables and connections from the radio equipment to the PLC interface. Proper power supply shall be provided.
3. Provide radio/antenna components as shown on the drawings.
4. Transceivers and associated equipment shall be designed to operate on 12 VDC. Each transceiver shall have a 12 VDC battery backup system (including a battery charger). The power backup system shall be capable of powering the radio and its associated equipment for a minimum of 8 hours. The battery backup system shall be isolated from the primary power. Upon primary power failure, the power shall be transferred to the backup system by use of relay contacts or diodes. Battery tapping of a 24 V power system to obtain 12 V is not acceptable.
5. Each battery backup system shall include signals for low battery voltage condition and primary power failure. Batteries shall be designed for standby power use and sized to operate the load for the indicated time. Batteries shall be gel type lead dioxide with sealed construction, be capable of at least 200 charge-discharge cycles and have a service life of at least 3 years.

6. Battery chargers shall be designed to charge the type of battery furnished. The charger shall be automatic dual rate and produce the voltage and current recommended by the battery manufacturer to ensure maximum battery life.

F. Yagi Antenna System at the Repeater Site:

1. The Yagi antenna at the Repeater Site is a Scala TY-900. Antenna system shall be provided complete and functional for the intended use. System shall include antenna, mounting masts and hardware, grounding rods and accessories, and coaxial cables with connectors. Antenna heights shall be based on the radio survey and shall not exceed FCC limitations.
2. Antenna mounting components and hardware shall be hot-dip galvanized steel, stainless steel, or aluminum. Aluminum antennas or mounting components shall be anodized. Lightning suppressors shall be provided on antenna coaxial feed lines.
3. Antennas and antenna poles shall be mounted as indicated.
4. Antenna connections and openings shall be sealed and weatherproofed.
5. Antenna shall be suitable for use on the assigned radio frequency and shall have the gain required for reliable communications. The antennas for all remote sites shall be heavy duty YAGI type meeting the following requirements:

Frequency range	- 890 to 960 MHZ
Forward gain	- 12 Db
Front-to-back ratio	- >20 Db
VSWR	- <1.5 to 1.0 maximum
Polarization	- Horizontal or Vertical
Impedance	- 50 ohms
Horizontal beamwidth	- 48 degrees (half power point)
Input power	- 100 W Maximum
Wind rating	- 150 mph survival (no ice)
Lighting protection	- Direct ground
Input connector	- N female

6. Antenna feed lines shall be 1/4-inch low loss coax for remote sites. Feed lines shall be routed to radio transceivers through conduit or inside the antenna mast. Provide Andrew Superflex FSJ1-50A. Connectors shall be 1/4-inch male N, Andrew F1PNM-H.
7. Transmission lines and the antenna system shall be grounded as indicated.
8. The lightning arrestor is a Polyphaser IS-B50LN-C2.

G. Yagi Antenna System at the Wellhead:

1. The Yagi antenna at the Wellhead is a Scala TY-900. Antenna system shall be provided complete and functional for the intended use. System shall include antennas, mounting masts and hardware, grounding rods and accessories, and coaxial cables with connectors. Antenna heights shall be based on the radio survey and shall not exceed FCC limitations.

2. Antenna mounting components and hardware shall be hot-dip galvanized steel, stainless steel, or aluminum. Aluminum antennas or mounting components shall be anodized. Lightning suppressors shall be provided on antenna coaxial feed lines.
3. Antennas and antenna poles shall be mounted as indicated.
4. Antenna connections and openings shall be sealed and weatherproofed.
5. Antenna shall be suitable for use on the assigned radio frequency and shall have the gain required for reliable communications. The antennas for all remote sites shall be heavy duty YAGI type meeting the following requirements:

Frequency range	-	890 to 960 MHZ
Forward gain	-	12 Db
Front-to-back ratio	-	>20 Db
VSWR	-	<1.5 to 1.0 maximum
Polarization	-	Horizontal or Vertical
Impedance	-	50 ohms
Horizontal beamwidth	-	48 degrees (half power point)
Input power	-	100 W Maximum
Wind rating	-	150 mph survival (no ice)
Lighting protection	-	Direct ground
Input connector	-	N female

6. Antenna feed lines shall be 1/2-inch coax for remote sites. Feed lines shall be routed to radio transceivers through conduit or inside the antenna mast. Provide Andrew Superflex FSJ4-50B. Connectors shall be 1/2-inch male N, Andrew F4PNMV2-HC.
7. Transmission lines and the antenna system shall be grounded as indicated.
8. The lightning arrestor is a Polyphaser IS-B50LN-C2.

D. Omni Antenna System at the Repeater Site:.

1. The antenna used with the spread spectrum radio at the Repeater Site shall be a 3db Omni-directional base station antenna. All hardware shall be stainless steel. Frequency range shall be 890 to 960 MHz (broadband), specifically designed for "spread-spectrum" applications. Antenna shall have foam-potted N-type connectors. All antennas and mast systems shall be grounded per NEC requirements and as shown on the Drawings. The Omni antenna at the Repeater Site is an Andrew DB583-Y.
2. Antenna feed lines shall be 1/2-inch coax for remote sites. Feed lines shall be routed to radio transceivers through conduit or inside the antenna mast. Provide Andrew Superflex FSJ4-50B. Connectors shall be 1/2-inch male N, Andrew F4PNMV2-HC.
3. Transmission lines and the antenna system shall be grounded as indicated.
4. The lightning arrestor is a Polyphaser IS-B50LN-C2.

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 all field-mounted components and assemblies and as recommended by the manufacturer and as indicated.
- E. Conduits: In building interior locations, conduits shall be surface mounted on walls or ceilings wherever possible and parallel to building lines. Conduit shall not be routed on floors unless indicated otherwise. In exterior locations, conduit shall be routed below grade. Existing concrete or asphalt slabs shall be sawcut, conduit installed, and the cut repaired to original condition. Exposed conduit and raceway shall be installed perpendicular or parallel to building lines.
- F. Final Checks: Final check of the communication systems shall be performed as an integral part of the system specified in Section 13300 - Instrumentation and Control.

3.2 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 16030 - ELECTRICAL TESTS

PART 1 -- GENERAL

1.1 WORK OF THIS SECTION

- A. The WORK of this Section includes testing, commissioning and demonstrating electrical WORK.
- B. The WORK of this Section includes circuit activation, equipment running and installation of temporary jumpers.
- C. The WORK of this Section includes correction of defects and retesting.

1.2 RELATED SECTIONS

- A. The WORK of the following Sections applies to the WORK of this Section. Other Sections of the specifications, not referenced below, shall also apply to the extent required for proper performance of this WORK.
 - 1. Section 13300 Instrumentation and Control
 - 2. Section 16050 Electrical Materials and Methods

1.3 CODES

- A. The WORK of this Section shall comply with the current editions, with revisions, of the following codes and City of San Diego Supplements:
 - 1. National Electrical Code

1.4 SPECIFICATIONS AND 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, Section 16T:
Electrical Acceptance Tests

1.5 SEQUENCE AND SCHEDULING

- A. Electrical testing including functional testing of power and controls not tested under Section 13300 shall be completed before commencement of the 7-day test.

1.6 SHOP DRAWINGS AND SAMPLES

- A. The following shall be submitted in compliance with the contract documents:

1. Report of testing of electrical WORK.

1.7 MODIFICATIONS TO NETA TEST REQUIREMENTS

- A. The following modifications to NETA test requirements apply to the WORK of this Section:
 1. The requirements of 16T, part 1, paragraph 1.1 shall be deleted.
 2. The requirements of 16T, part 1, paragraph 1.2 shall be changed to read as follows: "The CONTRACTOR shall engage the services of a . . .".
 3. The requirements of 16T, part 4, paragraph 4.4 shall be changed to read as follows: "The CONTRACTOR shall supply. . .".
 4. The requirements of 16T, part 4, paragraph 4.6 shall be changed to read as follows: "The CONTRACTOR shall notify days prior to commencement of any testing."
 5. The requirements of 16T, part 5, paragraph 5.22 shall be changed to read as follows: "Furnish 12 copies of the complete report to no later than 30 days after completion of the project."
 6. The requirements of 16T, part 6 shall be replaced with the following: "The work shall include the inspection and testing of all electrical devices, equipment and materials provided by the CONTRACTOR."
 7. The requirements of 16 T, part 7 shall be deleted and replaced with the following: "The CONTRACTOR shall engage an independent testing firm for the purpose of inspecting, setting, testing, and calibrating the protective relays, circuit breakers, fuses and other applicable devices in accordance. The testing firm shall strictly conform to the requirements of these testing specifications."
 8. The requirements of 16T, part 9 shall be deleted.

PART 2 -- PRODUCTS

2.1 TEST EQUIPMENT AND MATERIALS

- A. Test instruments shall be calibrated to references traceable to the National Bureau of Standards and shall have a current sticker showing date of calibration, deviation from standard, name of calibration laboratory and technician, and date recalibration is required.

PART 3 -- EXECUTION

3.1 TESTING

A. In addition to indicated testing requirements and acceptance criteria, testing shall include the following:

1. Lighting: Switching, including remote control. Circuitry in accordance with panel schedules. Lighting fixtures located to minimize obstruction of illumination by mechanical equipment or building structural elements.
2. Power Instrumentation: Demonstration that voltmeter and ammeter switches are functional and that meters, including kilowatt meters, are installed within catalog accuracy.
3. Demonstration of mechanical and electrical interlocking by attempting to subvert the indicated sequence.
4. Activation of ground fault tripping by operating test features provided with ground current protective systems and by injecting a known, and reasonable, current in the ground current sensor circuit. Where not otherwise indicated, ground fault tripping shall occur at a ground current equivalent to 20 percent of phase current. Current injection is not required of circuit 400 amperes or less.
5. Test ground interrupter (GFI) receptacles and circuit breakers for proper operation by methods recommended by the receptacle Manufacturer.
6. Functional test and testing of electrical components shall be performed prior to subsystem testing and commissioning. Compartments and equipment shall be cleaned before commencement of functional testing. Functional testing shall include:

Visual and physical check of cables, busswork, circuit breakers, transformers, and connections associated with new and modified equipment.

Setting of protective relays in conformance with results of the Short Circuit Study and testing of relays to assure that relays will trip at the current value and time required by the Study.

Circuit breakers which are specified with adjustable time or pick-up settings for ground current, instantaneous overcurrent, short-time overcurrent, or long-time overcurrent, shall be field adjusted by a representative of the circuit breaker Manufacturer. Time and pickup setting shall correspond to the recommendations of the Short Circuit Study. Setting shall be tabulated and proven for each circuit breaker in its installed position; test results shall be certified and copies shall be submitted to the CONSTRUCTION MANAGER.

7. 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 to the CONSTRUCTION MANAGER and after process control devices have been adjusted. The WORK of this Section includes adjusting level switches prior to testing and setting.
- C. After initial settings have been completed, each subsystem shall be operated in the manual mode. Once the manual mode of operation has been proven and similar parameters.
- D. NOT USED.
- E. Ground resistance tests shall be conducted in the presence of the CONSTRUCTION MANAGER utilizing ground resistance megger "Earth" tester with a maximum of 0-50 scale. Tests shall be conducted utilizing the full of potential method or the three terminal method as described by Biddle or Neta.
- F. Subsystems, in the context discussed here, mean individual and groups of pumps, conveyor systems, chemical feeders, air conditioning units, ventilation fans, air compressors, and similar equipment.

3.2 COMMISSIONING

- A. Commissioning during the 7-day test 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 shall be considered only upon receipt of a written request by the CONTRACTOR.

** END OF SECTION **

SECTION 16050 - BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 -- GENERAL

1.1 WORK OF THIS SECTION

A. The WORK of this Section includes providing the following:

1. Raceways, Fittings and Supports
2. Concrete Pads, Underground Ducts, Manholes and Pull-Boxes
3. Conductors, Wire and Cable
4. Wiring Devices
5. Lighting and Power Distribution Panelboards
6. Disconnect Switches
7. Electrical Identification
8. Cabinets and Enclosures
9. Process Control Devices

1.2 RELATED SECTIONS

A. The WORK of the following Sections applies to the WORK of this Section. Other Sections of the Specifications, not referenced below, shall also apply to the extent required for proper performance of this WORK.

1. Section 13300 Instrumentation and Control
2. NOT USED
3. Section 16030 Electrical Tests
4. Section 16170 Grounding System
5. Section 16400 Low Voltage Electrical Service and Distribution

11. Section 16421 Surge Arresters

1.3 STANDARD SPECIFICATIONS

- A. Except as otherwise indicated in this Section of the Specifications, the CONTRACTOR shall comply with the Standard Specifications for Public Works Construction (SSPWC)

1.4 CODES

- 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. Uniform Building Code
 - 2. National Electrical Code

1.5 SPECIFICATIONS AND STANDARDS

- A. Except as otherwise indicated, the current editions of the following apply to the WORK of this Section:

1. Federal Specifications:

FS W-C-596E/GEN(1)	Connector, Plug, Receptacle and Cable Outlet, Electrical Power
FS W-S-896E/GEN(1)	Switches, Toggle (Toggle and Lode), Flush Mounted (ac)
FS WW-C-581E	Conduit, Metal, Rigid, And Intermediate; And Coupling, Elbow, and Nipple, Electrical Conduit: Steel, Zinc Coated
WW-C-581E	Intermediate; and Coupling, Elbow, and Nipple, Electrical Conduit; Zinc Coated

2. Commercial Standards:

ANSI B16.5	Pipe Flanges and Flanged Fittings, Steel, Nickel Alloy, and Other Special Alloys
ANSI C80.1	Rigid Steel Conduit, Zinc Coated, Specification For
ANSI Z55.1	Gray Finishes for Industrial Apparatus and Equipment
ANSI C80.1	Rigid Steel Conduit-Zinc Coated
ANSI C80.3	Electrical Metallic Tubing-Zinc Coated

ANSI/IEEE 386	Separable Insulated Connector Systems for Power Distribution Systems Above 600V
ANSI/IEEE C37.30A	Definitions and Requirements for High-Voltage Air Switches, Insulators, and Supports, Supplement to C37.30-1971
ANSI C37.32	Schedules of Preferred Ratings, Manufacturing Specifications and Application Guide for High-Voltage Air Switches, Bus Supports, and Switch Accessories
ANSI C37.46	Specifications for Power Fuses and Fused Disconnecting Switches
NEMA VE-1	Ventilated Cable Tray
NEMA TC2	Electrical Plastic Tubing (EPT) and Conduit (EPC 40 and EPC 80)
NEMA ICS 6	Enclosures for Industrial Controls and Systems
NEMA 250	Enclosures for Electrical Equipment (1000 volts maximum)
NEMA WC7	Cross-Linked-Thermosetting Insulated Wire and Cable for the Transmission and Distribution of Electric Energy
IPCEA S-61-402	Thermoplastic - Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy
IPCEA S-19	Rubber - Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy
JIC EMP-1-67	Electrical Standards for Mass Production Equipment
AEIC CS6	Ethylene Propylene Rubber Insulated Shielded Power Cables Rated 5 through 69 KV
ASTM B3	Soft or Annealed Copper Wire
ASTM B8	Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft
ASTM B33	Tinned Soft or Annealed Copper Wire for Electrical Purposes

ASTM B189	Lead Coated and Lead-Alloy-Coated Soft Copper Wire for Electrical Purposes
ASTM A193/A193M	Alloy-Steel and Stainless Steel Bolting Materials for High Temperature Service
ICEA S-68-516	Ethylene-Propylene-Rubber-Insulated Wire
IEEE 383	Type Test of Class IE Electric Cables, Field Splices, and Connections for Nuclear Power Generating Stations
UL 1242	Intermediate Metal Conduit
UL 44	Rubber-Insulated Wires and Cable
UL 83	Thermoplastic-Insulated Wires and Cable
UL 67	Underwriters Laboratories, Electric Panelboards
UL 489	Molded-Case Circuit Breakers and Circuit Breaker Enclosures
UL 50	Cabinets and Boxes

1.6 SHOP DRAWINGS AND SAMPLES

A. The following shall be submitted in compliance with the contract requirements:

1. General

Shop drawings including the following:

Front, side, and rear elevations and top views.

Location of conduit entrances and access plates.

Identification of conductors not indicated on drawings.

Identification numbers of conductors.

Manufacturers' equipment drawings.

Details of shielded power cable termination.

Component data.

Connection, terminal and internal wiring diagrams, and conductor sizes.

Layout drawings indicating arrangement, dimensions and weights.

Methods of anchoring.

Finish.

Nameplates.

Temperature limitations, as applicable.

Manufacturer's product data including the following:

Catalogue cuts, bulletins, brochures, or photocopies of applicable pages for mass produced, non-custom manufactured products stamped to

indicate the project name, applicable Specification section and paragraph, model number, ratings and options.

Lists of the following:

Materials, equipment, apparatus and fixtures proposed for use; with the list including sizes, names of manufacturers, catalog numbers, and such other information required to identify the items.

Test reports of the following:

Factory-fabricated products.
Currents resulting from DC high potential testing.

2. Lighting and Power Distribution Panelboards

Manufacturer's data as follows:

Manufacturer's certification that bus bracing is capable of withstanding the specified short circuit condition.

Quantity and rating of circuit breakers provided with each panelboard.

1.7 OWNER'S MANUAL

A. The following shall be included in the OWNER'S MANUAL :

1. Manufacturer's installation instructions.
2. Manufacturer's maintenance procedures.

1.8 PROJECT RECORD DRAWINGS

A. The following shall be included in the PROJECT RECORD DRAWINGS :

1. Accurate location of conductors including depths and routing of concealed below-grade electrical WORK.
2. Accurate location of electrical WORK (raceway and conductors) where the location differs substantially from the locations indicated.

1.9 AREA DESIGNATIONS

A. **General:** For purposes of delineating electrical enclosure and installation requirements, certain areas are classified as defined below. Electrical installations within these areas shall conform to the indicated code requirements for the area indicated.

- B. **General Purpose Locations:** WORK installed in areas which are not otherwise specifically classified shall be "General Purpose." Enclosures shall comply with the requirements of these Specifications and shall be NEMA Type 1.
- C. **Outdoor Locations:** In outdoor locations, raceway shall be rigid galvanized steel conduit; entrances shall be threaded; and fittings shall have gasketed covers. Fittings and conduit shall be drained. Threaded fastening hardware shall be stainless steel. Mounting brackets shall be galvanized. Attachments or welded assemblies shall be galvanized after fabrication. Power panels, switchboards and motor control centers shall be "Weatherproof NEMA Type 3R." Enclosures shall be mounted 1/4-inch from walls to provide an air space unless specifically shown otherwise.
- D. **Damp Location:** Locations which are indoors and 2 feet belowgrade elevation or which are indicated as damp locations on the Drawings shall have electrical installations which conform to the requirements for outdoor locations; except, that the air space from walls may be less than 1/4-inch and enclosures shall be NEMA Type 2. "Damp locations" shall include pipe galleries, tunnels, and basements. Rooms housing liquid handling equipment are also classified as damp locations regardless of grade elevation.
- E. **Splash Locations:** Areas indicated as "splash-proof" locations shall have electrical installations as described for "outdoor locations"; except, that NEMA Type 4 enclosures shall be provided for instruments and controls, panels, switchboards, and motor control centers.
- F. **Corrosive Locations:** Areas indicated as "corrosive" locations shall have stainless steel threaded hardware; electrical hardware, fittings, and raceway systems shall be PVC-coated. Enclosures shall be NEMA Type 4X of fiberglass and reinforced polyester or equal. Corrosive locations include chemical feeder and chemical storage rooms, chlorination rooms, reservoir access, valve structures, and outdoor areas within 10 feet of chemical storage tanks and areas within 10 feet of inlet channels.
- G. **Hazardous Locations :** NEC "Hazardous (Classified) Locations" shall be as indicated and shall comply with NFPA 820.

1.10 FACTORY TESTING

- A. **Product Testing:** Products shall be tested at the factory for compliance with the indicated requirements and as follows:
 - 1. Cabinets and Enclosures: Each motor control center shall be completed, assembled, wired, and tested at the factory. All buses and wiring shall be given a dielectric test in accordance with the latest IEEE and NEMA Standards.
- B. **Witnesses:** The OWNER and the CONSTRUCTION MANAGER (at the option of either) reserves the right to witness factory tests.

1.11 FIELD TESTING

- A. **Testing:** Products shall be field-tested for compliance with the indicated requirements.
- B. **Witnesses:** The OWNER and the CONSTRUCTION MANAGER (at the option of either) reserves the right to witness field tests.

1.12 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 that will prevent damage and in an area that is protected from the elements. Products shall not be damaged, marred, or splattered with water, foam, plaster, or paint. Moving parts shall be kept clean and dry.
- C. **Replacement:** Damaged materials or equipment, including face plates of panels and switchboard sections, shall be replaced or refinished by the manufacturer at no expense to the OWNER.

1.13 REGULATORY REQUIREMENTS

- A. In addition to other indicated regulatory requirements, the WORK of this Section shall comply with the requirements of SSPWC Subsection 209-1.

1.14 UTILITY REQUIREMENTS

- A. The WORK of this Section includes compliance with the requirements of San Diego Gas and Electric Company and payment of related charges.

PART 2 -- PRODUCTS

2.1 GENERAL

- A. **Listing:** Electrical equipment and materials shall be listed for the intended purpose by an independent testing laboratory including Underwriters Laboratories (UL). Independent testing laboratory shall be acceptable to the inspection authority having jurisdiction.
- B. **Unlisted Products:** When a product is not available with a testing laboratory listing for the intended purpose, special testing (if any) required by the authority having jurisdiction shall be included in the original contract price.
- C. **Project/Site Conditions:** Unless otherwise indicated, equipment and materials shall be sized and rated for the ambient conditions in San Diego but not less than an ambient temperature of 40 degrees C at sea level without exceeding the manufacturer's stated tolerances.

- D. **Product Qualifications:** Equipment and materials shall be new and shall bear the UL label, where UL requirements apply. Equipment and materials shall be the products of reputable manufacturers specializing in the products indicated in this Section. Similar items in the project shall be products of the same manufacturer. Equipment and materials shall be of industrial grade and standard of construction and shall be of sturdy design and manufacture; and shall be capable of reliable, trouble-free service.

2.2 RACEWAY, FITTINGS AND SUPPORTS

- A. **Raceway:** Raceway shall comply with the following:

1. **Rigid Steel Conduit:** Raceway shall be rigid steel conduit complying with ANSI C80.1 unless otherwise indicated. Rigid steel conduit shall be full weight, mild steel, hot-dip galvanized and bichromate coated inside and outside after galvanizing.
2. **Intermediate Metal Conduit:** Intermediate metal conduit shall comply with UL 1242 and FEDSPEC WW-C-581E and shall have smooth finished surfaces. Conduit shall be galvanized. Minimum size shall be 3/4 inch.
3. **Fittings:** Locknuts shall be extra heavy electrogalvanized steel for sizes through 2 inches. Locknuts larger than 2 inches shall be electrogalvanized malleable iron. Bushings shall be electrogalvanized malleable iron with insulating collar. Grounding bushings shall be locking type and shall include a feed-through compression lug for securing the ground cables. Unions shall be electrogalvanized ferrous alloy type. Threadless fittings are not acceptable. Gaskets shall be made of neoprene.

Expansion fittings in embedded runs shall be watertight and shall be provided with an internal bonding jumper. The expansion material shall be neoprene and shall allow for 3/4-inch movement in any direction.

4. **Plastic Coated Rigid Steel Conduit and Fittings:** Plastic coated conduit shall be rigid steel conduit with PVC jacket and shall conform to Federal Specification WW-C-581E, ANSI C80.1, and to Underwriter's Laboratories specifications. The zinc surfaces of the conduit shall remain intact and undisturbed on both the inside and the outside of the conduit through the preparation and application processing. A PVC coating shall be bonded to the galvanized outer surface of the conduit. The bond between the PVC coating and the conduit surface shall be greater than the tensile strength of the plastic. The thickness of the PVC coating shall be a minimum of 40 mils. A PVC jacketed coupling shall be provided with each length of conduit. A PVC sleeve equal to the OD of the conduit shall extend 1-1/2 inches from each end of coupling.

Fittings used with plastic coated conduit shall be similarly coated to the same thickness as the conduit and shall be provided with type 304 stainless steel hardware. Conduit and fittings shall be manufactured by the same company. Minimum size shall be 3/4 inch.

5. Electrical Metallic Tubing: Electrical metallic tubing shall be electrogalvanized complying with ANSI C80.3. Fittings shall be compression type. Minimum size shall be 3/4 inch. Electrical metallic tubing shall be galvanized inside and out with an enamel coating inside and a chromate coating outside.
6. Flexible Metal Conduit: Flexible metal conduit shall be formed from spirally wound galvanized steel strip with successive convolutions securely interlocked. Minimum size shall be 1/2 inch. Fittings shall be compression type. Flexible metal conduit shall be provided with ground wire.
7. Liquidtight Flexible Steel Conduit: Liquidtight flexible steel conduit shall be formed from spirally wound galvanized steel strip with successive convolutions securely interlocked and jacketed with liquidtight plastic cover. Minimum size shall be 1/2 inch. Fittings for liquidtight conduit shall have cadmium-plated malleable iron body and gland nut with cast-in lug, brass grounding ferrule threaded to engage conduit spiral and O-ring seals around the conduit, box connection and insulated throat. Forty-five and 90-degree fittings shall be used where applicable.
8. Explosionproof Flexible Conduit: Explosionproof flexible conduit shall be suitable for use in Class I, Division 1, Groups C and D hazardous areas complying with NEC and shall be watertight.
9. Rigid Nonmetallic Conduit: Rigid nonmetallic conduit shall be NEMA TC2, type EPC-40-PVC, or EPC-80-PVC high impact, polyvinylchloride (PVC). Fittings used with PVC conduit shall be PVC solvent weld type. Nonmetallic conduits shall be UL listed for applications indicated. Minimum size shall be 1 inch.
10. Wireways: Wireways and auxiliary gutters shall be JIC EMP-1 sectional flanged oiltight type with hinged covers and shall be 8 inches by 8 inches in cross section unless otherwise indicated.

B. Boxes and Fittings: Boxes and fittings shall comply with the following:

1. Sheet Metal Boxes: Boxes and fittings installed in areas where electrical metallic tubing is indicated shall be standard UL approved electro-galvanized sheet steel.
2. Cast Ferrous Alloy Boxes: Boxes shall be hot-dip galvanized cast ferrous alloy unless otherwise indicated. Integrally cast threaded hubs or bosses shall be provided for conduit entrances and shall provide for full 5-thread contact on tightening. Drilling and threading shall be done before galvanizing. A full body neoprene gasket shall be included with the cover. Type 304 stainless steel screws shall be provided for covers. Where two or more devices are located together, outlet and device boxes shall be gang type. Cover plates shall be hot-dip galvanized cast ferrous alloy unless the particular device requires a cover that is not manufactured in this material

3. Floor Boxes: Floor boxes shall be hot-dip galvanized cast boxes with an NEMA 4 rating. Boxes shall include a recessed ring neoprene gasket, hot-dip galvanized steel checker cover plates and type 304 stainless steel machine screws of not less than 1/4 inch diameter. The cover screws shall be flat head type or recessed socket head screws designed to be flush with cover plate.
4. Welded Sheet Steel Boxes: Large boxes shall be fabricated from welded steel and shall be hot-dip galvanized after fabrication. Before finish is applied, a grounding pad drilled for two bolted grounding lugs or a grounding stud shall be welded to the inside of the box. Hardware shall be 304 stainless steel. Boxes shall, as a minimum, meet NEMA 12 and JIC EMP-1 requirements.
5. Explosionproof Boxes and Seal Fittings: In areas specified as Class I, Division 1 or 2, hazardous, boxes and fittings shall be NEMA 7, Groups C and D, explosionproof. Seal fittings for conduit systems in hazardous atmosphere locations shall be hot-dip galvanized cast ferrous alloy. Sealing compound shall be hard type and UL listed for explosionproof sealing fittings.
6. Hubs: Threaded hubs for connection of conduit to junction, device or terminal boxes shall be made of cast ferrous alloy, electroplated with zinc and shall have insulated liner and insulating bushings. The hubs shall utilize a neoprene O-ring and shall ensure a watertight connection.

C. **Raceway Supports:** Raceway supports shall comply with the following:

1. Conduit Supports: Hot-dip galvanized framing channel shall be used to support groups of conduit. Individual conduit supports shall be one-hole galvanized malleable iron pipe straps used with galvanized clamp backs and nesting backs where required. Conduit supports for PVC coated rigid steel and PVC conduit systems shall be one-hole PVC coated clamps or PVC conduit wall hangers.
2. Ceiling Hangers: Ceiling hangers shall be adjustable galvanized carbon steel rod hangers. Straps or hangers of plumber's perforated tape are not acceptable. Unless otherwise indicated hanger rods shall be 1/2-inch full-threaded rods and shall meet ASTM A193. Hanger rods in corrosive areas and those exposed to weather or moisture shall be stainless steel.
3. Structural Attachments (Racks): Structural attachments shall be constructed from hot-dip galvanized framing channel as specified. Field cuts shall be treated with zinc enriched paint.

2.3 CONCRETE PADS, UNDERGROUND DUCTS, MANHOLES AND PULL-BOXES

- A. **General:** The WORK of this Section includes concrete pads, manholes, pull-boxes and concrete required for encasement, installation, or construction and shall be 2500-psi concrete conforming with the following:

1. Consolidation of encasement concrete around duct banks shall be by hand puddling, and no mechanical vibration will be permitted.
 2. A workability admixture consisting of a hydroxylated carboxylic acid type in liquid form shall be used in encasement concrete, 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.
- B. **Concrete Pads:** Concrete housekeeping pads shall be provided for floor-standing electrical equipment. Housekeeping pads shall be [2] [4] [] inches above surrounding finished floor or grade and shall be [2] [] inches larger in both dimensions than the supported equipment unless otherwise indicated.
- C. **Concrete-Encased Ducts:** Where an underground distribution system is indicated, it shall be constructed of multiple runs of single bore [thin-wall] non-metallic ducts, concrete encased, with steel reinforcing bars, with underground manholes and pullboxes.
- D. **Manholes and Pull-Boxes :** Manholes and pullboxes shall comply with the following:
1. Manholes and pull-boxes shall be of precast concrete. Concrete construction shall be designed for traffic loading. Covers shall be [traffic] [parkway] type, except as otherwise indicated. "P" covers shall be identified as "High Voltage Electric." "S" covers shall be identified as "Secondary Electric" and "C" covers as "Signal." Manholes and pullboxes shall be equipped with pulling-in irons opposite and below each ductway entrance. Manholes shall have concrete covers with 30-inch diameter lids. Covers and lids shall be bolted to cast-in-place steel frames with corrosion resistant hardware. Frames shall be factory-primed; covers shall be galvanized and shall have lifting handles.
 2. Manholes and pullboxes shall have cable supports so that each cable is supported at 3-foot intervals within the manhole or pullbox. Cable supports shall be fastened with galvanized bolts and shall be fabricated of fiberglass or galvanized steel.
 3. Duct entrances shall be grouted smooth. Ducts for primary and secondary cables shall be terminated with flush-end bells. Sections of prefabricated manholes and pullboxes shall be assembled with waterproof mastic. Each manhole or pullbox shall be set on a 6-inch bed of gravel as recommended by the manufacturer.

2.4 CONDUCTORS, WIRE AND CABLE

- A. **General:** The type, size and number of conductors shall comply with the indicated requirements. Number and types of communication, paging, and security cables shall be as required for the particular equipment provided.

Conductors, including ground conductors, shall be copper. Insulation shall bear the manufacturer's trademark, type, voltage rating, and conductor size.

B. Color Coding: Color coding shall comply with the following:

1. Control Conductors: Control conductors color coding shall be manufacturer's standard.
2. Power Conductors: Single-conductor power conductors shall have the following colors for 600V or less:

	<u>120/208V</u>	<u>480/277V</u>
Phase A	Black	Brown
Phase B	Red	Orange
Phase C	Blue	Yellow
Ground	Green	Green
Neutral	White	Grey

Color coding tape shall be used where colored insulation is not available. Branch circuit switch shall be yellow. Insulated ground wire shall be green, and neutral shall be gray. Color coding and phasing shall be consistent throughout the site, but bars at panelboards, switchboards, and motor control centers shall be connected Phase A-B-C, top to bottom, or left to right, facing connecting lugs.

General purpose ac control conductors shall be pink. General purpose dc control conductors shall be blue.

Cables sized No. 4 AWG and larger may be black with colored 3/4-inch vinyl plastic tape applied in 3-inch lengths around the cable at each end. The cables shall be tagged at terminations and in pull boxes, handholes and manholes.

C. Lighting and Receptacle Branch Circuit Conductors: Lighting conductors shall be stranded except for No. 12 AWG which shall be solid.

1. Conductors shall comply with the following characteristics:

Voltage:	600 volts.
Conductor:	Bare annealed copper; stranded in accordance with ASTM B8.
Insulation:	THWN/THHN, 90 degree C dry, 75 degree C wet, polyvinylchloride (PVC) per UL 83.
Jacket:	Nylon.
Flame resistance:	UL 83.

D. Power and Control Conductors and Cable, 600 Volts: Conductors and cable shall comply with the following:

1. Single Conductors: Single conductor cable shall be stranded and shall be installed in conduits for power and control circuits.

Conductors shall comply with the following characteristics:

Voltage: 600 volts.

Conductor: Coated, Class B, stranded, annealed copper per ASTM B8.

Insulation: XHHW, 90 degrees C dry, 75 degrees C wet, composite of ethylene propylene rubber (EPR) and chlorosulfonated polyethylene (CSPE) per ICEA UL 44 and NEMA WC-7.

Jacket: Chlorosulfonated polyethylene (CSPE).

Flame resistance: IEEE 383.

2. Multiconductor Cable: Multiconductor cable shall be used for power and control circuits installed in cable tray. Cables shall be UL labeled, Type C, designed for cable tray installation in accordance with NEC 340. The type of insulation, number of conductors, and size of conductor shall comply with the indicated requirements.

Multiconductor power cable shall contain three or four conductors, as indicated, plus an equipment grounding conductor.

Multiconductor power cables shall comply with the following:

Voltage: 600 volts.

Conductors: Annealed copper, stranded, per ASTM B8, coated per ASTM B33.

Insulation: THWN/THHN, 90 degrees C dry, 75 degrees C wet, ethylene propylene rubber (EPR) or a composite of EPR and chlorosulfonated polyethylene (CSPE) per ICEA S-68-516 and UL 44.

Jacket: Polyvinylchloride (PVC).

Flame resistance: IEEE 383.

Unless otherwise indicated, multi-conductor control cable shall be size 14 AWG and shall comply with the following:

Voltage: 600 volts.

Conductors: Annealed copper, stranded, per ASTM B8, coated per ASTM B33.

Insulation: THWN/THHN, 90 degrees C dry, 75 degrees C wet, ethylene propylene rubber (EPR) or a composite of EPR and chlorosulfonated polyethylene (CSPE) per ICEA S-68-516 and UL 44.

Jacket: Polyvinylchloride (PVC).

Flame resistance: IEEE 383.

E. **Direct Burial:** Direct burial cable shall be multiconductor type MC cable. Cable shall be suitable for direct burial or encasement in concrete, normal or Class 1, Division 2 atmospheres. Cable shall comply with the following:

1. Voltage: 600 volts
2. Conductor: Conductor(s) shall be bare annealed stranded copper. Size and number of conductors shall be as specified on the circuit schedule.
3. Insulation: Insulation shall be Type XHHW, meeting NEMA WC-7 and UL 44.
4. Assembly: The individual conductors shall be cabled together with nonhygroscopic fillers and abinder tape overall. An impervious, continuous, corrugated aluminum sheath shall be welded over the cable core with a black flame-retardant PVC jacket of not less than 50mils extruded over the armor. Nonwelded type sheath is not acceptable. The armor shall meet the grounding conductor requirements of Table 250-95 of the NEC and UL requirements.

F. **Signal Cables:** Signal cables shall comply with the following:

1. General: Signal cable shall be provided for instrument signal transmission, alarm, communication and any circuit operating at less than 100 volts. Cables shall be color coded black and white for pairs or black, white and red for triads. Circuit shielding shall be provided in addition to cable shielding.
2. Single Circuit: Cable shall consist of one pair or triad, No. 16 AWG conductors with 15 mils of 90 degree C polyvinylchloride (PVC) insulation, 4 mils nylon conduit or jacket, twisted on a 2-inch lay, and covered with a 100 percent 1.35 mil aluminum-Mylar tape shield with No. 18 AWG 7-strand tinned copper drain wire and a 45mil PVC jacket overall. Cable shall be UL listed, Type TC, rated 600 volts.
3. Multiple Circuit: Cable shall consist of four or more pairs or triads which are made up of No. 18 AWG conductors with 15 mils of 90 degree C PVC insulation, 4 mils nylon jacket, twisted on a staggered lay 1-1/2 to 2-1/2 inches, and covered with a 100 percent 1.35 mil aluminum-Mylar tape shield with No. 22 AWG 7-strand tinned copper drain wire. Overall cable shield shall be 2.35 mil aluminum-Mylar tape with a No. 20 AWG 7-strand tinned copper drain wire. Cable shall be UL listed, Type TC, 600 volts.

4. Thermocouple Extension: Extension cable shall be provided for the type of thermocouple circuit indicated. Conductors shall be 16 AWG, solid alloy, with 15 mils of 90 degree C flame-retardant polyvinylchloride insulation, twisted and covered with 100 percent 2.35mil aluminum polyester tape and a 20 AWG, 7-strand, tinned-copper drainwire and a 35 mil, flame-retardant PVC jacket overall. Cable shall be listed for cable tray installation.
 5. Communication, Paging and Security System: Communication, paging, and security system cables shall comply with Section 13300.
- G. **Portable Cord:** Portable cord shall be UL listed, Type SO for sizes No. 10 AWG and smaller. Cords with conductors larger than No. 10 AWG shall be UL listed, Type G. Cords shall contain an equipment grounding conductor.
1. Cables shall comply with the following:
 - Conductors: Flexible rope stranded per ASTM B189 and B33. Conductors shall be coated except ground conductors may be uncoated.
 - Insulation: Insulation shall be ethylenepropylene (EPR) as per ICEAS-68-516 and rated for continuous operation at 90 degrees C.
 - Jacket: Heavy-duty neoprene as per ICEA S-68-516.
- H. **Splicing and Terminating Materials:** Splicing and terminating materials shall comply with the following:
1. 600 Volt Conductor and Cable Connectors: C Connectors shall be compression type of correct size and UL listed for the specific application. Connectors shall be tin-plated high conductivity copper. Connectors for wire sizes No. 10 AWG and smaller shall be nylon self-insulated, ring tongue or locking-spade terminals. Connectors for wire sizes No. 8 AWG and larger shall be one-hole lugs up to size No. 3/0 AWG, and two-hole or four-hole lugs for size No. 4/0 and larger. Mechanical clamp, dimple, screw-type connectors are not acceptable.

In-line splices and taps shall be used only where indicated, or shown on the shop drawings. When used, they shall be of the same construction as the connectors. Splices shall be compression type, made with a compression tool die designed for the purpose. Splice shall be covered with a heat-shrinkable sleeve or boot.
 2. 5 KV and 15 KV Cable Terminators: Terminations shall be made with a tin-plated compression type lug and a compression pressure tool recommended by the manufacturer of the lug. Tool shall be of the hydraulic pump type or the type that crimps to the required size before releasing. Electrical voltage stresses shall be controlled by high permittivity, high resistivity, heat shrinkable polymeric tubing. Termination shall be sealed using heat shrinkable tubing and heat activated adhesive. Corona extinction

level for a completed termination on a cable shall not be less than 1-1/2 times the rated cable phase to ground voltage.

Splices shall be made with a tin-plated copper compression connector and a compression tool as recommended by the manufacturer of the connector. Tool shall be of the hydraulic pump type or the type that crimps to the required size before releasing. Electrical voltage stresses shall be controlled by utilization of high permittivity, high resistivity, heat shrinkable polymeric tubing. The splice shall be sealed with a heat activated adhesive and an outer heat shrinkable jacket tubing. Splice shall provide continuity of the cable shield using a wire mesh and grounding clamps.

Load break connectors and bushings shall be rated 8.3 KV phase to ground and 14.4 KV phase to phase across contact; 95 KV BIL; 35 KV, 60 Hz, 1 minute; 11 KV corona extinction; 200 amp continuous, 300 amps, 8 hours; 15,000 amps RMS (asym), 12 cycles, 10,000 amps RMS (sym), 30 cycles; and shall comply with the requirements of ANSI C119.2. Connectors and bushings shall include items necessary for a complete installation.

Nonload-break connectors and bushings shall be rated 8.3 KV phase to ground and 14.4 KV phase to phase; 95 KV BIL; 35 KV, 60 Hz, 1 minute; 11 KV corona extinction; 600 amps continuous; 900 amps, 8 hours; 40,000 amps RMS (asym), 12 cycles; 27000 amps RMS (sym), 4seconds; and shall comply with the requirements of ANSI C119.2. Connectors and bushings shall include items necessary for a complete installation.

3. Portable Cable Fittings: Portable cable fittings for terminating the cable shall provide a watertight seal between the cord and the terminator and between the terminator and mounting hub. The cable terminator shall include neoprene liner which grips the cord jacket when the back nut on the fitting is tightened.

2.5 WIRING DEVICES

- A. **General:** Wiring devices shall be UL approved for the current and voltage indicated and shall comply with NEMA WD-1. Devices shall contain provisions for back wiring and side wiring with captively held binding screws.

Devices shall be brown, except those located in finished areas shall be ivory.

Special purpose devices shall be the color indicated.

Receptacles and switches shall conform to Federal Specifications W-C-596E and W-S-896E, respectively, and the indicated standards.

- B. **Receptacles and Plugs:** Receptacles and plugs shall comply with the following:
 1. General: Receptacles shall be grounding type.

2. 120V Receptacles: Receptacles indicated for indoor use in clean areas shall be duplex 20 amp, NEMA 5-20R, and shall accept NEMA 5-15P and 5-20P plug caps.

Receptacle indicated for use outdoors or in process or corrosive areas shall be duplex, 20 ampere, NEMA 5-20R, and shall accept NEMA 5-15P and 5-20P plug caps. Receptacle and plug caps shall be corrosion resistant, marine duty with yellow polycarbonate weatherproof lift covers.

3. Ground Fault Interrupter Receptacles: Receptacles shall be NEMA 5-20R configured and shall mount in a standard outlet box. Units shall trip at 5 milliamperes of ground current and shall comply with NEMA WD-1-1.10 and UL 943. GFI receptacles shall be capable of individual as well as "downstream" operation.
4. NOT USED
5. Plug Caps: Male plug caps for 120volt and 240 volt receptacles shall be of the cord grip armored type with heavy phenolic housing, of the same manufacture as the receptacle. Plug caps shall be rated 15 amps. One plug cap shall be provided for every four receptacles (minimum [2] [] plug caps).
6. NOT USED
7. NOT USED

C. **Switches:** Switches shall comply with the following:

1. General Purpose (Indoor, Clean Areas): General purpose switches shall be quiet AC type, specification grade, and shall comply with rated capacities as required. Switches shall match receptacles in color.
2. NOT USED
3. Switches For Outdoor and Corrosive Areas: Switches shall be heavy-duty industrial type 20-ampere presswitch type with weatherproof/corrosion resistant neoprene plate. CONTRACTOR shall provide abuse-resistant nylon handles, and switches with corrosion-resistant steel nickel plate bridge.

D. **Device Plates:** Device plates shall be provided with switches. In noncorrosive indoor areas, receptacle device plates shall be made of sheet steel, zinc electroplated with chrome finish.

Device plates in corrosive or outdoor areas shall be corrosion-resistant/marine-duty type. Device plates for explosionproof equipments shall be factory provided with the equipment.

Device plates shall include engraved laminated phenolic nameplates with 1/8-inch white characters on black background.

Nameplates for switches shall identify panel and circuit number and area served.

Nameplates for receptacles shall identify circuit and voltage if other than 120 volts, single phase.

E. NOT USED

2.6 LIGHTING AND POWER DISTRIBUTION PANELBOARDS (NOT USED)

2.7 DISCONNECT SWITCHES (NOT USED)

2.8 ELECTRICAL IDENTIFICATION

- A. **Nameplates:** Nameplates shall be fabricated from white-center, black-face laminated plastic engraving stock. Nameplates shall be fastened securely, using fasteners of brass, cadmium plated steel, or stainless steel, screwed into inserts or tapped holes, as required. Engraved characters shall be block style of adequate size to be read easily at a distance of 6 feet with no characters smaller than 1/8-inch high.
- B. **Conductor and Equipment Identification:** Conductor and equipment identification devices shall be either imprinted plastic-coated cloth marking devices or shall be heat-shrink plastic tubing, imprinted split-sleeve markers cemented in place.
- C. **Identification Tape (Buried):** Identification tape for protection of buried installation shall be a 6-inch wide green polyethylene tape imprinted "CAUTION - ELECTRIC UTILITIES BELOW".

2.9 CABINETS AND ENCLOSURES

- A. **General:** The WORK of this Section includes the following requirements for control compartments of motor control sections, for control cabinets of lighting panelboards, and for separate terminal and control cabinets:
 - 1. **Terminal Cabinets:** Terminal cabinets located indoors shall be NEMA 12. Cabinets located outdoors and in corrosive areas shall be NEMA 4X. Cabinets shall be provided with hinged doors. Cabinets shall be provided with channel mounted terminal blocks rated 30 amperes, 600 volt AC. Terminals shall be No. 8 minimum strap-screw type, suitable for ring tongue or locking spade terminals. Sufficient terminal blocks to terminate 25 percent more conductors than are indicated shall be provided.
 - 2. **Components:** Compartments of motor control centers containing terminal blocks and control components shall be isolated from other compartments of the control center and shall have a separate hinged door with locking handle. Internal control components shall be mounted on a removable mounting pan.
 - 3. **Relay and Control Cabinets:** Relay and control cabinets shall comply with NEMA 12 for enclosures. Floor-standing cabinets shall have locking handles with 3-point catches. Bottom conduit entrances shall be located accurately and cut to the conduit diameter using a circle cutter (not a torch). Interiors of relay and control compartments shall be finished white. Terminal

block requirements shall comply with the requirements for Terminal Cabinets.

- B. **Wiring:** Wiring of terminal cabinets and control cabinets shall be accomplished with stranded copper conductor rated for 600-volts and UL listed as Type MTW. Wires for annunciator and indication circuits shall be No. 16 AWG. Other wiring shall be No. 14 AWG. Color coding shall comply with the indicated requirements. Incoming wires to terminal or relay cabinets shall be terminated on a master set of terminal blocks. All wiring from the master terminals to internal components shall be factory-installed and shall be contained in plastic raceways with removable covers. Wiring to door-mounted devices shall be extra flexible and anchored to doors using wire anchors cemented in place. Exposed terminals of door-mounted devices shall be guarded to prevent accidental personnel contact with energized terminals.
- C. **Engraving:** Nameplates shall comply with the indicated requirements.

2.10 PROCESS CONTROL DEVICES (NOT USED)

2.11 MANUFACTURERS

- A. Products of the type or model number indicated shall be manufactured by one of the below listed manufacturers (or equal):
 - 1. Unions:
Appleton UNF or UNY
Crouse-Hinds UNF or UNY
 - 2. Device Boxes:
Appleton FD
Crouse-Hinds FD
 - 3. Sealing Compound:
Chico A
 - 4. Watertight Seals:
O.Z. Gedney Co., Type CSMC
Thunderline Corp.
Link Seal
 - 5. Lighting and Receptacle Branch Circuit Conductors:
Okoseal-N, Series 116-67-XXXX
 - 6. Single Power and Control Conductors and Cable, 600V:
Okonite-Okolon, Series 112-11-XXXX
Anaconda
Durasheath EP
 - 7. Multiconductor Cables:
Okonite-Okolon, Series 202-11-3XXX
Anaconda
Durasheath EP

8. Direct Burial Cables:
Okonite
CLX
9. Armored Cable:
Okoguard, Series 571-23-3XXX
Anaconda
Duralox Unishield EP
10. Single Circuit Signal Cable:
Okoseal-N Type P-OS
11. Multiple Circuit Signal Cable:
Okoseal-N Type SP-OS
12. Thermocouple Extension:
Okonite P-OS, Type PLTC
13. Portable Cords:
Okocord
14. Compression Tool Die For Splicing:
Thomas and Betts Corp.
15. Heat Shrinkable Moisture Seal Caps:
Raychem Corp. "Thermofit"
16. 120V Receptacles (Indoor, Clean Areas):
Hubbell IG-5362
Arrow-Hart 6766
G.E. 4107-1 (Brown)
17. 120V Receptacles (Outdoor, Process or Corrosive Areas):
Hubbell 53CM62/53CM21
General Electric GE5262-C
18. 240V Duplex Receptacles (Gray):
Hubbell 5462
General Electric G.E. 4188-9
19. 240V Single Receptacles (Black):
Hubbell 9308
General Electric G.E. 4138-3
20. Toggle Switches:

	Hubbell	Bryant	Hubbell	Bryant
Single Pole	1221 (brown)	4901 (brown)	1221I (ivory)	4901I (ivory)
Three Way	1223	4903	1223I	4903I
Double Pole	1222	4902	1222I	4902I
Momentary	1556	4821	1556I	4821I
21. Switches (Hazardous Areas):

- Crouse-Hinds EFSC2129
Appleton EFSC175-F1
22. Electrical Identification:
Nameplates
 Formica Type ES-1
Imprinted Plastic Coated Cloth
 Brady
 Thomas & Betts
 23. Device Plates:
Crouse-Hinds
Appleton
 24. Plug Strips:
Plugmold
 25. Manholes and Pullboxes:
Brooks
Quikset
 26. Flexible Conduit:
American Brass
Anaconda
Electroflex
 27. Compression Connectors:
Burndt "Hi Lug"
Thomas & Betts "Shure Stake"
 28. Spring Connectors (Wire Nuts):
3M "Scotch Lok"
Ideal "Wing Nuts"
 29. Insulating Tape:
Scotch No. 33
Plymouth "Slip knot"
 30. High Temperature Insulating Tape (Polyvinyl):
Plymouth
3M
 31. Pre-Insulated Fork Tongue Lugs:
Thomas & Betts RC Series
Burndy
 32. Epoxy Resin Splicing Kits:
3M Scotchcoat 82 Series
Burndy "Hy Seal"
 33. Stress Cone Material For Make-up Of Medium Voltage Shielded Cable:
G & W

3M
duPont

34. Stainless Steel Covers:
Sierra S-line
Hubbell
35. Products For Cast Boxes:

Switches at outdoor locations
Crouse-Hinds DS 128
Mackworth Rees Style 3845
Joy Flexitite

Switches at damp locations
Mackworth Rees Style 3496
Joy Flexitite

Switches at dry locations
Crouse-Hinds DS 32G
Pyle National SCT-10k

Receptacles at outdoor locations
Crouse-Hinds
Hubbell

Receptacles at damp or dry locations
Crouse-Hinds DS 23G
Pyle National N-1

Receptacles at corrosive locations
Crouse-Hinds "Ark Gard"
Appleton DTQ
Hubbell 52CM21 or 5221
36. Cast Boxes Required for Pull or Junction Boxes:
Floor boxes with checker plate covers
O-Z Type "YR", []
Surface boxes
O-Z type "YH"
37. Floor Type Outlet Boxes:
Hubbell Catalog B-2530 with S-2530 cover plate
Steel City (Russell & Stoll) Catalog 78AL and 889
38. Power Outlet Boxes:
Hubbell Cat. No. SC-3098
Steel City Cat. No SFH40RG
39. Telephone Outlet Boxes:
Hubbell Cat. No. SS-309-T
Steel City Cat. No SFL10

- 40. Insulated Bushings:
 - O-Z Type A and B
 - Thomas & Betts
 - Steel City
 - Appleton
 - Efcor
 - Gedney

- 41. Insulated Grounding Bushings:
 - O-Z Type BL
 - Thomas & Betts
 - Steel City
 - Efcor
 - Gedney

- 42. Erickson Couplings:
 - Appleton Type EC
 - Thomas & Betts
 - Steel City
 - Efcor
 - Gedney

- 43. Liquid-tight Fittings:
 - Appleton Type ST
 - Thomas & Betts
 - Crouse-Hinds
 - Efcor
 - Gedney

- 44. Hubs:
 - Appleton Type HUB
 - Thomas & Betts
 - Myers Scrutite
 - Efcor

- 45. Sealing Fittings:
 - Appleton Type EYS
 - O-Z Type FSK

- 46. Expansion Couplings:
 - O-Z Type D
 - Crouse-Hinds Type

- 47. NOT USED

- 48. NOT USED

PART 3 -- EXECUTION

3.1 GENERAL

- A. **Field Control of Location and Arrangement** : The Drawings diagrammatically indicate the location and arrangement of outlets, conduit runs, equipment, and other items. Exact locations shall be determined in the field based on the physical size and arrangement of equipment, finished elevations, and obstructions. Locations shown on the Drawings shall be adhered to as closely as possible. Omissions or conflicts on Drawings or between Drawings and Specifications shall be brought to the attention of the CONSTRUCTION MANAGER for clarification before proceeding with the WORK.
- B. **Installation:** The CONTRACTOR shall make all necessary provisions throughout the site to receive the work as construction progresses and shall furnish and install adequate backing, supports, inserts, and anchor bolts for the hanging and support of all electrical fixtures, conduit, panelboard, and switches, and shall furnish and install sleeves through walls, floors, or foundations where electrical lines are required to penetrate.
- Conduit and equipment shall be installed in such a manner as to avoid all obstructions and to preserve head room and keep openings and passageways clear. Fixtures, switches, convenience outlets, and similar items shall be located within finished rooms, as shown. Where the Drawings do not indicate exact locations, locations of concealed conductors shall be as indicated on the shop drawings.
- C. **Workmanship:** Materials and equipment shall be installed in accordance with printed recommendations of the manufacturer. The installation shall be accomplished by workmen skilled in this type of work and installation shall be coordinated in the field with other trades so that interferences are avoided.
- D. **Tests:** The WORK of this Section includes tests required by the authority having jurisdiction. Tests shall be performed in the presence of the CONSTRUCTION MANAGER. The WORK includes testing equipment, replacement parts and labor necessary to repair damage resulting from damaged equipment or from testing and correction of faulty installation. The following tests shall be performed:
- Insulation resistance tests.
- Operational testing of equipment.
- E. **Field Quality Control:** Conduit shall be provided with a number tag at each end and in each manhole and pullbox. Trays shall be identified by stencils at intervals not exceeding 50 feet, at intersections, and at each end.

3.2 RACEWAY, FITTINGS AND SUPPORTS

- A. **General:** Except as otherwise indicated, conduit installed in direct contact with earth and in concrete slabs on grade shall be corrosion-protected.

Conduit shall be left exposed until inspected by the CONSTRUCTION MANAGER.

Raceways shall be installed as indicated. 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 conduits. Bends in larger sizes of metallic conduit shall be accomplished by field bending or by the use of factory elbows.

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 and shall be encased with a minimum cover of 3 inches of concrete.

Non-metallic conduit may be cast integral with horizontal slabs with placement criteria as stated in the previous paragraph. Non-metallic conduit may be run beneath structures or slabs on grade, without concrete encasement. In these instances conduit shall be placed at least 12 inches below the bottom of the structure or slab. Non-metallic conduit may be buried 24 inches minimum below grade, with a 3-inch concrete cover, in open area or where otherwise not protected by concrete slab or structures. Top of concrete cover shall be colored red. Non-metallic conduit shall be permitted only in concealed locations as described above. The use of direct burial thinwall duct will be permitted only as indicated for underground ducts.

Where a run of concealed PVC conduit becomes exposed, a transition to rigid steel conduit is required. Such transition shall be accomplished by means of a factory elbow or a minimum 3-foot length of rigid steel conduit, either terminating at the exposed concrete surface with a flush coupling. Piercing of concrete walls by non-metallic runs shall be accomplished by means of a short steel nipple terminating with flush couplings.

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.

1. Application: Galvanized rigid steel shall be installed in the locations indicated:

Embedded or encased in non-hazardous areas	Schedule 40 PVC
Exposed in corrosive areas	Plastic coated, rigid steel
Direct buried lighting and receptacle raceways in non-hazardous areas	Schedule 80 PVC
Hazardous and corrosive areas within stud walls, above suspended ceilings, and within elevator machine rooms	Plastic coated, rigid metallic tubing
Final raceway connections to lighting fixtures, equipment and pressure switches subject	Flexible metallic

to vibration-DRY AREAS

Final raceway connections to Liquidtight, flexible metallic equipment

2. **Conduit Runs Between Boxes:** The number of directional changes of the conduit shall be limited to total not more than 270 degrees in any run between pull boxes. Conduit runs shall be limited to 400 feet, less 100 feet or fraction thereof, for every 90 degrees of change in direction. Bends and offsets shall be avoided where possible but, where necessary, shall be made without flattening or kinking, or shall be factory preformed bends. Turns shall be made with cast metal fittings or conduit bends. Welding, brazing or otherwise heating of conduit is not acceptable.
3. **Junction and Pull Boxes:** Cast junction or pull boxes shall be installed where required for pulling cable and as necessary to meet the indicated requirements. Pull boxes used for multiple conduit runs shall not combine circuits of different motor control centers, switchboards, or switchgear.
4. **Conduit Terminations:** The WORK of this Section includes conductors required to interconnect incoming annunciator, control and instrumentation except as otherwise indicated.

Two- and 3-conductor shielded cables installed in conduit runs which exceed 2,000 feet may be spliced in pullboxes. These cable runs shall have only one splice per conductor.

Control conductors shall be spliced or terminated only at the locations indicated and only on terminal strips or terminal lugs of vendor furnished equipment. 120/208-volt and 480-volt branch circuit conductors may be spliced in suitable fittings at locations required. 5-kV conductors shall be spliced or terminated only at equipment terminals indicated.

Solid conductors shall be terminated at equipment terminal screws such that conductor is tightly wound around screw and does not protrude beyond screw head. Stranded conductors shall be terminated directly on equipment box lugs such that all conductor strands are confined within lug. Use forked-tongue lugs where equipment box lugs have not been provided.

Splices in 600-volt wire which are not pre-insulated shall be insulated with three layers of tape each half lapped except that splices in below grade pull boxes or in any box subject to flooding shall be made watertight using an epoxy resin splicing kit.

Splices to motor leads in motor terminal boxes shall be taped with varnished cambric tape and with high temperature tape on the exterior.

Shielded power cable shall be terminated with pre-assembled stress cones in a manner approved by the cable manufacturer. The CONTRACTOR shall submit the proposed termination procedure as described for shop drawings.

Control devices, such as solenoid operated valves, that are normally supplied with conductor pigtails, shall be terminated as described for control conductors.

Conduit entering NEMA 1 type sheet steel boxes or cabinets shall be secured by locknuts on both the interior and exterior of the box or cabinet and shall have an insulating grounding or bonding bushing installed over the conduit end. Conduit entering other boxes shall be terminated with a threaded hub. Cast boxes and nonmetallic enclosures shall have threaded hubs. Joints shall be made with standard couplings or threaded unions. Metal parts of nonmetallic boxes and plastic coated boxes shall be bonded to the conduit system. Running threads shall not be used in lieu of conduit nipples, nor shall excessive thread be used on any conduit. The ends of conduit shall be cut square, reamed, and threaded with straight threads. Rigid steel conduit shall be made up tight and without thread compound. Exposed male threads on rigid steel conduit shall be coated with zinc-rich paint.

PVC conduit entering fiberglass boxes or cabinets shall be secured by threaded bushings on the interior of the box and shall be terminated with a threaded male terminal adapter having a neoprene O-ring. Joints shall be made with standard PVC couplings.

Conduit entering field equipment enclosures shall enter the bottom or side of the box. Where conduit comes from above, it shall be run down beside the enclosure and a tee conduit and drip leg installed.

5. Matching Existing Facilities: When new conduit is added to areas which are already painted, the conduit and its supports shall be painted to match the existing facilities. Where new conduit is used to replace existing conduit, the existing conduit and supports shall be removed, resulting blemishes shall be patched and repainted to match original conditions. Similarly, if existing conduits are to be reused and rerouted, resulting blemishes shall be corrected in the same manner.

6. Conduit Support: Exposed rigid steel or plastic coated conduit shall be run on supports spaced not more than 10 feet apart and shall be constructed with runs parallel or perpendicular to walls, structural members, or intersections of vertical planes and ceiling. Exposed PVC conduit shall be run on supports spaced not more than 3 feet apart for conduits up to 1 inch, 5 feet apart for conduits 1 1/4 inches to 2 inches and 6 feet apart for conduits 2 1/2 inches and larger. No conduit shall approach closer than 6 inches to any object operating above 30 degrees C. PVC conduit shall not be provided where it will be damaged by heat.

Conduit rack and tray supports shall be secured to concrete walls and ceilings by means of cast-in-place anchors. Individual conduit supports shall use cast-in-place anchors, die-cast, rustproof alloy or expansion shields. Wooden plugs, plastic inserts or gunpowder-driven inserts are not acceptable.

7. Conduit Penetrations: Unless otherwise indicated, conduit routed perpendicular through floors, walls or other concrete structures shall pass through cast-in-place openings wherever possible. In cases where cast-in-place openings are not possible, appropriate size holes shall be bored through the concrete to accommodate the conduit passage. The size and location of the holes shall not impair the structure's integrity. After completion, grout or calk around conduit and finish to match existing surroundings. Unless otherwise protected, conduits that rise vertically through the floor shall be protected by a 3 1/2-inch high concrete pad with a sloping top.

Conduits entering manholes and handholes shall be horizontal. Conduits shall not enter through the concrete bottom of handholes and manholes.

Wherever conduits penetrate outdoor concrete walls or ceilings below grade, watertight seal shall be installed.

8. Conduit Separation: Signal conduits shall be separated from AC power or control conduits. The separation shall be a minimum of 12 inches for metallic conduits and 24 inches for nonmetallic conduits.
9. Conduit Seals For Hazardous or Corrosive Areas: Conduit passing from a hazardous or corrosive area into a nonhazardous or noncorrosive area shall be provided with a sealing fitting which shall be located at the boundary in accordance with NEC.

Seal fittings for conduit systems in hazardous atmosphere locations shall be hot-dip galvanized cast ferrous alloy. Sealing compound shall be hard type and shall be UL listed for explosion proof sealing fittings. Sealing compound shall be nonhardening type for corrosive areas. Sealing compound shall not be poured in place until electrical installation has been otherwise accepted.

10. Plastic Coated Conduit: Plastic coated conduit shall be made up tight with strap wrenches. Conduit threads shall be covered by a plastic overlap which shall be coated and sealed in accordance with manufacturer's recommendations. Pipe wrenches and channel locks shall not be used for tightening plastic coated conduits. Damaged areas shall be patched, using manufacturer's recommended material. The area to be patched shall be built up to the full thickness of the coating. Painted fittings are not acceptable.
11. Liquidtight Flexible Conduit: The length of flexible liquidtight conduit shall not exceed 15 times the trade diameter of the conduit. The length of liquidtight conduit shall not exceed 36 inches.
12. Conduit Fittings: Fittings shall comply with the same requirements as the raceway 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 non-ferrous metal. Fittings larger than one inch shall be "mogul size." Fittings shall be of the gland ring compression type. Covers of fittings, unless in "dry" locations, shall include gaskets. Surface-mounted cast

fittings, housing wiring devices in outdoor and damp locations, shall have mounting lugs.

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.

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.

3.3 UNDERGROUND DUCTS, MANHOLES AND PULL-BOXES

A. **Underground Ducts** : Where an underground distribution system is indicated, installation shall comply with the following:

1. Ducts 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. 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. Couplings shall be staggered at least 6 inches vertically. Bottom of trench shall be of select backfill or sand. Horizontal and vertical duct separation shall be maintained by plastic spacers set every 5 feet. The duct array shall be anchored every 4 feet to prevent movement during placement of the concrete envelope. 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, a wire brush and swab shall be drawn through. A raceway, in the duct envelope, which does not require conductors, shall have a 1/8-inch polypropylene pull cord installed throughout the entire length of the raceway.
2. Duct bank markers shall be installed every 200 feet along run of duct bank, at changes in horizontal direction of duct bank, and at ends of duct bank. Concrete markers, 6 by 6 inches square and one foot long, shall be set flush with grade. The letter "D" and arrow set in the concrete shall be facing in the direction of the duct alignment.

B. **Manholes and Pull-Boxes**: Manholes and handholes shall be set plumb to limit the depth of standing water to a maximum of 2 inches. Manhole covers, unless otherwise indicated, shall be set at grade. Sections of pre-fabricated manholes and pullboxes shall be assembled with waterproof mastic and shall be set on a 6-inch bed of gravel as recommended by the manufacturer.

3.4 CONDUCTORS, WIRE AND CABLE

A. **General**: Pulling wire and cable into conduit or trays shall be completed without damaging or putting undue stress on the cable insulation. Soapstone, talc or UL listed pulling compounds are acceptable lubricants for pulling wire and cable.

Grease is not acceptable. Raceway construction shall be complete, cleaned, and protected from the weather before cable is installed.

Whenever a cable leaves a raceway, a cable support shall be provided.

When flat bus bar connections are made with unplated bar, the contact areas shall be "scratch-brushed" before connection. Bolts shall be torqued to the bus manufacturer's recommendations.

- B. 600 Volt Conductor and Cable:** Conductors in panels and electrical equipment, No. 6 AWG and smaller, shall be bundled and laced at intervals not greater than 6 inches, spread into trees and connected to their respective terminals. Lacing shall be made up with plastic cable ties. Lacing is not necessary in plastic panel wiring duct. Conductors crossing hinges shall be bundled into groups not exceeding 12 and shall be so arranged that they will be protected from chafing when the hinged member is moved.

Slack shall be provided in junction and pull boxes, handholes and manholes. Slack shall be sufficient to allow cables or conductors to be routed along the walls of the box. Amount of slack shall be equal to largest dimension of the box. Where plastic panel wiring duct is installed for wire runs, lacing is not required. Plastic panel wiring duct shall not be used in manholes and handholes.

Stranded conductors shall be terminated. Conductors shall be terminated directly on the terminal block. Compression lugs and connectors shall be installed using manufacturer's recommended tools.

Lighting and receptacle circuits may be in the same conduit in accordance with derating requirements of the NEC. However, lighting and receptacle circuits shall not be installed in conduits with power or control conductors.

Solid wire shall not be lugged nor shall electrical spring connectors be used or any except for solid wires in lighting and receptacle circuits. Lugs and connectors shall be installed with a compression tool.

Terminations at 460 volt motors shall be made by bolt-connecting the lugged connectors. Connections shall be insulated and sealed with factory-engineered kits. Motor connection kits shall consist of heat-shrinkable, polymeric insulating material over the connection area and a high dielectric strength mastic to seal the ends. Bolt connection area shall be kept free of mastics and fillers to facilitate rapid stripping and re-entry. Motor connection kits shall accommodate a range of cable sizes for both in-line and stub-type configurations.

In-line splices and tees shall be made with tubular compression connectors and insulated as for motor terminations, except that conductors No. 10 AWG and smaller may be spliced using self-insulating connectors. Splices and tees in underground handholes or pull boxes shall be insulated using Scotch-cast epoxy resin splicing kits. Terminations at devices with 120V pigtail leads, at solenoid valves, 120 volt motors, and other devices furnished with pigtail leads shall be made using self-insulating tubular compression connectors.

Conductor and cable markers shall be provided at splice points.

- C. **Signal Cable:** Circuits shall be installed as individually shielded twisted pairs or triads. In no case shall a circuit be made up using conductors from different pairs or triads. Triads shall be used wherever 3-wire circuits are required. Terminal blocks shall be provided at instrument cable junctions, and circuits shall be identified at such junctions unless otherwise indicated. Signal circuits shall be installed without splices between instruments, terminal boxes, or panels.

Shields are not acceptable as a signal path, except for circuits operating at radio frequencies and utilizing coaxial cables.

Common ground return conductors for two or more circuits are not acceptable.

Unless otherwise indicated, shields shall be bonded to the signal ground bus at the control panel and isolated from ground and other shields at other locations. Terminals shall be installed for running signal leads and shield drainwires through junction boxes.

Spare circuits and the shield drain wire shall be terminated on terminal blocks at both ends of the cable run and be electrically continuous through terminal boxes. Shield drain wires for spare circuits shall not be grounded at either end of the cable run.

Terminal boxes shall be installed at instrument cable splices. If cable is buried or in raceway below grade at splice, an instrument stand shall be provided as specified with terminal box mounted approximately 3 feet above grade.

Cable for paging, telephone, and security systems shall be installed and terminated in compliance with the manufacturer's recommendations.

- D. **Testing:** Testing shall comply with the requirements of Section 16030 and the following:

1. **Signal Cable:** Each signal pair or triad shall be tested for electrical continuity. Any pair or triad exhibiting a loop resistance of less than or equal to 50 ohms shall be deemed satisfactory without further test. For pairs with greater than 50 ohm loop resistance, the expected loop resistance shall be calculated considering loop length and intrinsic safety barriers if present. Loop resistance shall not exceed the calculated value by more than 5 percent.

Each shield drain conductor shall be tested for continuity. Shield drain conductor resistance shall not exceed the loop resistance of the pair or triad.

Each conductor (signal and shield drain) shall be tested for insulation resistance with all other conductors in the cable grounded.

Instruments used for continuity measurements shall have a resolution of 0.1 ohms and an accuracy of better than 0.1 percent of reading plus 0.3 ohms.

A 500 volt megohmmeter shall be used for insulation resistance measurements.

3.5 WIRING DEVICES

- A. **General:** Boxes shall be independently supported by galvanized brackets, expansion bolts, toggle bolts, or machine or wood screws as appropriate. Wooden plugs inserted in masonry or concrete shall not be used as a base to secure boxes, nor shall welding or brazing be used for attachment.

Unless otherwise indicated, receptacles and switches installed in sheet steel boxes shall be flush mounted and shall be located 18 inches above the floor unless otherwise indicated.

Switch boxes and receptacles installed in cast device boxes shall be mounted 48 inches above the floor.

- B. **Application of Boxes and Covers** Boxes and covers shall be installed as follows:

1. Outlet, switch, and junction boxes for flush-mounting in general purpose locations shall be cast ferrous alloy
2. Outlet, switch, and junction boxes where surface mounted in exposed locations shall be cast alloy ferrous boxes with mounting lugs, zinc or cadmium plating, and enamel finish. Surface mounted boxes in concealed locations may be welded sheet steel boxes.
3. Outlet, control station, and junction boxes, including covers, for installation in corrosive locations shall be fiberglass-reinforced polyester and shall include mounting lugs.
4. Cast ferrous alloy boxes for flush-mounting in concrete shall include with cast, malleable box covers and gaskets. Covers for pressed steel boxes shall be one-piece pressed steel, cadmium plated, except that boxes for installation in plastered areas shall be stainless steel over plaster rings.
5. Outlet boxes shall be used as junction boxes wherever possible. Where separate pullboxes are indicated, they shall include screw covers. Outdoors boxes shall be galvanized and shall be provided with gasketed covers and threaded hubs. Indoor boxes shall be painted.

3.6 LIGHTING AND POWER DISTRIBUTION PANELBOARDS

- A. **General:** The circuit description as indicated on the record drawings shall be typed on the circuit directory.
- B. **Testing:** Panelboards shall be tested for proper operation and function.

3.7 CABINETS AND ENCLOSURES

- A. The installation of cabinets and enclosures shall comply with the following:

1. Cabinets: Cabinets shall be set plumb at an elevation such that the maximum circuit breaker height shall be less than 5 ft 6 inches. Top edge of trim of adjacent panels shall be at the same height. Panels which are indicated as flush mounted shall be set so cabinet is flush and serves as a "ground" for plaster application.
2. Connections: Factory bus and wire connections shall be made at shipping splits, and all field wiring and grounding connections shall be made after the assemblies are anchored.
3. Finishes: Enclosures smaller in volume than 500 cubic inches shall be finished in accordance with the manufacturer's standard procedures. Finish color shall be No. 61 complying with ANSI Z55.1.

Enclosures larger in volume than 500 cubic inches shall comply.

3.8 EQUIPMENT ANCHORING

- A. Freestanding or wall-hung equipment shall be anchored in place by methods that will meet seismic requirement in the area where project is located. Wall-mounted panels that weigh more than 500 pounds or which are within 18 inches of the floor shall be provided with fabricated steel support pedestal(s). Pedestals shall be of welded steel angle sections. If the supported equipment is a panel or cabinet and enclosed with removable side plates, it shall match supported equipment in physical appearance and dimensions. Transformers hung from 4-inch stud walls and weighing more than 300 pounds, shall have auxiliary floor supports.
- B. Anchoring methods and leveling shall comply with the printed recommendations of the equipment manufacturers.

3.9 CONDUCTOR AND EQUIPMENT IDENTIFICATION

- A. The completed electrical installation shall include adequate identification to facilitate proper control of circuits and equipment and to reduce maintenance effort.
- B. Control and instrumentation wire and cable shall be assigned a unique identification number. Numbers shall be assigned to conductors having common terminals. Identification numbers shall appear within 3 inches of conductor terminals. "Control" shall be defined as any conductor used for alarm, annunciator, or signal purposes or any connect switch or relay contacts or any relay coils.
 1. Multiconductor cable shall be assigned a number which shall be attached to the cable at intermediate pull boxes and at stub-up locations beneath free-standing equipment. It is expected that the cable number will form a part of the individual wire number. All individual control conductors and instrumentation cable shall be identified at pull points as described above.
 2. The instrumentation cable numbers shall incorporate the loop numbers shown.
- C. Spare conductors shall be terminated on terminal screws and shall be identified with a unique number as well as with destination.

- D. Nameplates shall be provided for panelboards, panels, starters, switches, and pushbutton stations. In addition to the name plates indicated, control devices shall be equipped with standard collar-type legend plates, as required.
- E. Terminal strips shall be identified by imprinted, varnished, marker strips attached under the terminal strip.
- F. Three-phase receptacles shall be consistent with respect to phase connection of receptacle terminals. Errors in phasing shall be corrected at the bus, not at the receptacle.
- G. Toggle switches which control loads out of sight of switch, and all multi-switch locations of more than 2 switches, shall have suitable inscribed finish plates.
- H. Empty conduits shall be tagged at both ends to indicate the destination at the far end. Where it is not possible to tag the conduit, destination shall be identified by marking an adjacent surface.
- I. Identification tape shall be installed directly above buried raceway. Tape shall be installed 8 inches below grade and parallel with raceway. Identification tape shall be installed for buried raceway not under buildings or equipment pads except identification tape is not required for protection of street lighting raceway.

** END OF SECTION **

SECTION 16170 - GROUNDING SYSTEM

PART 1 -- GENERAL

1.1 WORK OF THIS SECTION

- A. The WORK of this Section includes providing grounding for electrical systems, exposed nonenergized metal surfaces of equipment and metal structures.

1.2 RELATED SECTIONS

- A. The WORK of the following Sections applies to the WORK of this Section. Other Sections of the specifications, not referenced below, shall also apply to the extent required for proper performance of this WORK.

- 1. Section 16050 Basic Electrical Materials and Methods

1.3 CODES

- A. The WORK of this Section shall comply with the current editions, with revisions, of the following codes and City of San Diego Supplements:

- 1. National Electrical Code

1.4 SPECIFICATIONS AND STANDARDS

- A. Except as otherwise indicated, the current editions of the following apply to the WORK of this Section:

- 1. IEEE 81 Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System, Guide for
- 2. UL 467 Standard for Grounding and Bonding Equipment

1.5 SHOP DRAWINGS AND SAMPLES

- A. The following shall be submitted in compliance with the contract documents:
 - 1. Shop drawings showing details of grounding system.
 - 2. Product data for grounding electrodes and connections.

1.6 OWNER'S MANUAL

- A. The following shall be included in the OWNER'S MANUAL in compliance with the contract documents:
 - 1. Manufacturer's instructions including instructions for storage, handling, protection, examination, preparation and installation of exothermic welded connectors.
 - 2. Test reports indicating overall resistance to ground and resistance of each electrode.

1.7 PROJECT RECORD DRAWINGS

- A. The following shall be included in the PROJECT RECORD DRAWINGS in compliance with the contract documents:
 - 1. Accurate record of actual locations of grounding electrodes.

1.8 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 that will prevent damage and in an area that is protected from the elements.

PART 2 -- PRODUCTS

2.1 GENERAL

- A. The WORK of this Section includes the following:
 - 1. Products listed and classified by Underwriters Laboratories, Inc. testing firm acceptable to authority having jurisdiction as suitable for purpose specified and shown.
 - 2. Except as otherwise indicated, grounding products and systems shall comply with the NEC.

2.2 ROD ELECTRODE

- A. Rod electrodes shall be copper-clad steel, sectional type, joined by threaded copper alloy couplings. Length of rods forming an individual ground array shall be equal in length and shall be of the length required to obtain a minimum ground resistance. Top of ground rod shall be fitted with a coupling and steel driving stud. Rods shall be of sufficient length to ensure contact with ground water.

2.3 CABLE

A. Ground cable shall be annealed bare copper, concentric stranded wire. If cable sizes are not indicated, the minimum sizes shall be as follows:

- | | | |
|----|---------------------------|---------|
| 1. | 5 and 15 kV switchgear | 4/0 AWG |
| 2. | 5 kV motor starters | 4/0 AWG |
| 3. | 15 kV-5 kV transformers | 4/0 AWG |
| 4. | 5 kV-480V transformers | 4/0 AWG |
| 5. | 480V switchgear | 4/0 AWG |
| 6. | 480V MCC and switchboards | 2/0 AWG |
| 7. | Cable tray | 2/0 AWG |
| 8. | Lighting panels | 2 AWG |
| 9. | Exposed metal | 2 AWG |

2.4 MECHANICAL CONNECTORS

A. Compression connectors shall comply with the following:

1. Material: Bronze

2.5 GROUNDING WELL COMPONENTS

A. Grounding well components shall comply with the following:

1. Well Pipe: 8 inch diameter by 24 inch long concrete pipe with belled end.
2. Well Cover: Cast iron with legend "GROUND" embossed on cover.

2.6 MANUFACTURERS

A. Products indicated shall be manufactured by one of the following (or equal):

1. Rods and Fittings:
Copperweld
Blackburn
Weaver
2. Compression Connectors:
Thomas and Bett

PART 3 -- EXECUTION

3.1 GENERAL

- A. Embedded and buried ground connections shall be made by compression connectors utilizing diamond or hexagon dies and a hand compression tool for wire sizes 2 AWG and smaller and a hydraulic pump and compression head for wire sizes 2/0 AWG and larger. Compression connections shall be prepared in accordance with the manufacturer's instructions. Exposed ground connections to equipment shall be made by bolted clamps unless otherwise indicated. Solder shall not be used in any part of the ground circuits.
- B. Embedded ground cables and fittings shall be securely attached to concrete reinforcing steel with tie wires and prevented from displacement during concrete placement. As each part of the grounding system which is laid below finished grade is completed, the CONSTRUCTION MANAGER shall be notified hours prior to backfilling.
- C. Grounding conductors which are extended beyond concrete surfaces for equipment connection shall be extended a sufficient length to reach the final connection point without splicing. Minimum extension shall be 3 feet. Grounding conductors which project from a concrete surface shall be located as close as possible to a corner of the equipment pad, protected by conduit, or terminated in a flush grounding plate. Exposed grounding conductors shall be supported by noncorrosive metallic hardware at 4-foot intervals maximum. Grounding conductors for future equipment shall be terminated using a two-hole copper flush mounted grounding plate.
- D. Grounding conductor shall not be used as a system neutral.
- E. Lightning arresters shall be directly connected to the ground system using copper conductors.

3.2 FACILITY GROUNDING

- A. Ground continuity throughout the facility shall be maintained by installing an electrically-continuous metallic raceway system.
- B. Metallic raceway shall be installed with double lock nuts or hubs at enclosures. Metallic conduits shall be assembled to provide a continuous ground path. Metallic conduits shall be bonded using insulated grounding bushings and shall be connected to the grounding system. Cable trays shall have No. 2/0 AWG bare copper ground conductor run on the outside of each tray. Conductor shall be connected to each section or fitting using a carriage bolt and clamp.
- C. Non-metallic raceway containing dc conductors operating at more than 50 volts to ground, or any ac conductors, shall contain a copper grounding conductor either bare, or green if insulated. Such conductor shall be bonded to terminal and intermediate metallic enclosures.

3.3 EQUIPMENT AND ENCLOSURE GROUND

- A. Electrical and distribution equipment and metal equipment platforms which support any electrical equipment shall be bonded to the nearest ground bus or to the nearest switchgear ground bus. This grounding requirement is in addition to the indicated raceway grounding.
- B. Connection to ground electrodes and ground conductors shall be exothermic welded where concealed and shall be bolted pressure type where exposed. Bolted connectors shall be assembled wrench-tight.
- C. Insulated grounding bushings shall be employed for all grounding connections to steel conduits in switchboards, in motor control centers, in pullboxes, and elsewhere where conduits do not terminate at a hub or a sheet metal enclosure.
- D. Where insulated bushings are required, they shall be installed in addition to double lock-nuts.
- E. Shielded power cable shall have its shield grounded at each termination in a manner recommended by the cable manufacturer. Shielded instrumentation cable shall be grounded at one end only; this shall be at the Motor Control Board or otherwise at the "receiving" end of the signal carried by the cable except as otherwise indicated. Termination of each shield drain wire shall be on its own terminal screw. All of these terminal screws in one rack shall be connected 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.
- F. Nonelectrical equipment with metallic enclosures shall be connected to the grounding system.

3.4 ISOLATED GROUNDING

- A. Where the manufacturer of equipment supplied from 120 volt instrument power panels requires an isolated ground, an additional isolated ground conductor from the equipment through the instrument power panel for connection to a single point ground bus in the automatic transfer switch enclosure shall be provided. The isolated ground conductor shall have green insulation with a yellow stripe and shall be run in the same raceway as the power and neutral conductors.
- B. The neutral conductor from the ultra-isolation transformers shall be grounded only at the single point ground bus in the automatic transfer switch.

3.5 EXAMINATION

- A. The WORK of this Section includes verification that final backfill and compaction has been completed before driving rod electrodes.

3.6 INSTALLATION

- A. Rod electrodes and additional rod electrodes as required to achieve specified resistance to ground shall be installed at locations indicated.
- B. Grounding well pipes with cover shall be installed at each rod location with well pipe top flush with finished grade.
- C. Metal siding not attached to grounded structure shall be bonded together and to ground.
- D. Reinforcing steel and metal accessories shall be bonded to structures.
- E. Transient suppression plates shall be installed.
- F. Ground grid shall be installed under access floors. Grid shall be constructed of bare copper wire installed on 24 inch centers both ways. Each access floor pedestal shall be bonded to grid.
- H. Metallic raceway, pipe, duct and other metal object entering space accessing area shall be bonded together using bare copper conductor.
- I. Isolated grounding conductors shall be installed for circuits supplying personal computers.

3.7 FIELD QUALITY CONTROL

- A. Grounding and bonding system conductors and connections shall be inspected for tightness and proper installation.

3.8 GROUNDING SYSTEM TESTS

- A. Suitable test instruments shall be used to measure resistance to ground of system. Testing shall be performed in accordance with test instrument manufacturer's recommendations using the fall-of-potential method.
- B. The grounding test shall comply with IEEE Standard 81. A plot of ground resistance readings for each isolated ground rod or ground mat shall be submitted on 8-1/2 x 11 inch size graph paper. The current reference rod shall be driven at least 100 feet from the ground rod or grid under test. The measurements shall be made at 10-foot intervals beginning 25 feet from the test electrode and ending 75 feet from it, in direct line between the ground rod or center of grid and the current reference electrode.
- C. A grounding system that shows greater than 2 ohm resistance for the flat portion of the plotted data shall be considered inadequately grounded. Additional parallel connected ground rods and/or deeper driven rods shall be provided until the ground resistance measurements complies with the indicated requirements. Use of salts, water or compounds to attain the specified ground resistance is not acceptable.

** END OF SECTION **

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 16421 - SURGE ARRESTERS

PART 1 -- GENERAL

1.1 WORK OF THIS SECTION

- A. The WORK of this Section includes providing surge arresters with mounting for the protection of electrical power equipment against surges caused by switching.

1.2 RELATED SECTIONS

- A. The WORK of the following Sections applies to the WORK of this Section. Other Sections of the specifications, not referenced below, shall also apply to the extent required for proper performance of this WORK.

1. Section 16050 Basic Electrical Materials and Methods
2. Section 16402 Electrical Service and Distribution
3. Section 16422 Surge Protection for High Voltage Equipment

1.3 CODES

- A. The WORK of the Section shall comply with the current editions, with revisions, of the following codes and City of San Diego Supplements:

1. National Electrical Code

1.4 SPECIFICATIONS AND STANDARDS

- A. Except as otherwise indicated, the current editions of the following apply to the WORK of this Section:

1. ANSI C 62.1 Surge Arresters for AC Power Circuits
2. NEMA LA 1 Surge Arresters

1.5 SHOP DRAWINGS AND SAMPLES

- A. The following shall be submitted in compliance with the contract documents:

1. Manufacturer's product data including catalogue cuts for arresters.
2. Shop drawings showing arrester mounting.
3. Information on at least one successfully performing installation of comparable size and complexity designed and fabricated in the recent past by the manufacturer responsible for this WORK, including contact names, addresses, and telephone numbers.

1.6 OWNER'S MANUAL

- A. The following shall be included in the OWNER'S MANUAL in compliance with the contract documents:
 - 1. Manufacturer's installation instructions.
 - 2. Manufacturer's maintenance procedures.
 - 3. Manufacturer's certified test data for arresters showing compliance with ANSI C 62.1.

1.7 FACTORY TESTING

- A. **Product Testing:** Products shall be tested at the factory for compliance with ANSI C 62.1.
- B. **Tests:** The following tests shall be made on each arrester in conformance with ANSI 62.1:
 - 1. Power-frequency spark-over
 - 2. Radio interference voltage
 - 3. Sealing
- C. **Witnesses:** The OWNER and the CONSTRUCTION MANAGER (at the option of either) reserves the right to witness factory tests.

1.8 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 that will prevent damage and in an area that is protected from the elements.

1.9 QUALIFICATIONS

- A. **Manufacturer:** Company specializing in surge arresters with at least one successfully performing installation of comparable size and complexity constructed during the recent past.

PART 2 -- PRODUCTS

2.1 GENERAL

- A. **General:** Only products certified as complying with the indicated requirements shall be provided.
- B. **Type:** The surge arresters shall be valve-type or gapless metal oxide designed to protect electrical power distribution equipment against overvoltages.

2.2 CLASSIFICATION OF ARRESTERS

- A. **General:** Surge arresters shall be classified according to ANSI C 62.1 test requirements.
- B. **Station Class:** Where indicated, station class arresters shall be provided on electrical distribution equipment rated above 10,000 KVA unless otherwise indicated.
- C. **Intermediate Class:** Where indicated, intermediate class arresters shall be provided on electrical distribution equipment rated 10,000 KVA and below unless otherwise indicated.
- D. **Distribution Class:** Where indicated, distribution class arresters shall be provided on electrical power distribution equipment.

2.4 NAMEPLATES

- A. **Nameplates:** Nameplates of stainless steel shall be engraved or stamped and fastened to the arresters. Nameplates shall contain the manufacturer's name, model, serial number, size, characteristics, and appropriate data describing the performance ratings.

2.5 MANUFACTURERS

- A. **Manufacturers:** Substation transformers shall include metal oxide arresters manufactured by one of the following (or equal):
 - 1. Westinghouse
 - 2. General Electric

PART 3 -- EXECUTION

3.1 INSTALLATION

- A. Arresters shall be installed in accordance with the manufacturer's written installation instructions.
- B. Surge arresters shall be mounted adjacent to equipment terminals.

C. Terminations shall be torqued as recommended by the manufacturer.

**** END OF SECTION ****

APPENDIX L

Permit To Do Work on Private Property



THE CITY OF SAN DIEGO

Permit To Do Work on Private Property

J.O. _____ Date _____ 20____ Coord. _____

Property Owner(s): _____

Daytime Phone Number(s) for Appointment/Work Coordination: _____

Property Owner(s) Address: _____

Address & Legal description of where the work is to be done: _____

Description of the work to be done: _____

Project Title: _____

Project Engineer: _____

It is understood and agreed that the permission herein granted shall terminate upon the date of completion of said work, as completion date is determined by the City of San Diego.

Permitter(s) shall not be held liable for any damage to equipment or injury to personnel of the City of San Diego, its agents or employees, incurred in performance of said work.

We/I, the undersigned, in consideration of the benefits to accrue to subject Real Property, DO HEREBY GRANT to the City of San Diego, its agents and representatives, permission to enter upon subject Real Property for the purpose of doing the work stated above in accordance with the standard of the City of San Diego.

OWNER

OWNER

APPROVED BY: _____

UW-1549 (2-01)

City of San Diego

CITY CONTACT: CLEMENTINA GIORDANO - CONTRACT SPECIALIST; Email: CGiordanosandiego.gov
Phone No. (619) 533-3481, Fax No. (619) 533-3633



ADDENDUM "A"

FOR

SEWER AND WATER GROUP 758

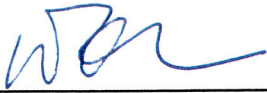
BID NO.:	_____	K-13-5449-DBB-3
SAP NO. (WBS/IO/CC):	_____	B-00365/B-00074
CLIENT DEPARTMENT:	_____	2011/2013
COUNCIL DISTRICT:	_____	2
PROJECT TYPE:	_____	JA/KB

BID DUE DATE:

**2:00 PM
MARCH 26, 2013
CITY OF SAN DIEGO
PUBLIC WORKS DEPARTMENT
1010 SECOND AVENUE, SUITE 1400, MS 614C
SAN DIEGO, CA 92101**

ENGINEER OF WORK

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



1) For City Engineer

3/15/13

Date

Seal:



A. CHANGES TO CONTRACT DOCUMENTS

The following changes to the Contract Documents are hereby made effective as though originally issued with the bid package. Bidders are reminded that all previous requirements to this solicitation remain in full force and effect.

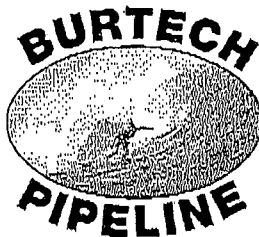
B. VOLUME 1

1. To the Supplementary Special Provisions, Section 707 – Resources Discoveries, page 47, subsection 707-2 Archeological and Native American Monitoring Program, **DELETE** in its entirety.
2. To the Supplementary Special Provisions, Section 707 – Resources Discoveries, page 47, subsection 707-3 Paleontological Monitoring Program. **DELETE** in its entirety.

Tony Heinrichs, Director
Public Works Department

Dated: *March 15, 2013*
San Diego, California

TH/NB/egz



March 27, 2013

City of San Diego
Purchasing & Contracting Department
1200 Third Avenue, Suite 200
San Diego, CA 92101

Attention : Celia Navarro
P (619) 533-3431 / F (619) 533-3431

Project : K-13-5449-DBB-3 – SEWER AND WATER GROUP 758

Subject : BASE BID TOTAL ACKNOWLEDGMENT

Dear Ms. Navarro,

Burtech Pipeline, Inc. hereby acknowledged the correct BASE BID AMOUNT of \$4,141,243.92 for the above mentioned project we bid yesterday March 26, 2013.

We thank you for bringing this to our attention and we look forward working with the City on this project as always.

Sincerely,

A handwritten signature in black ink, appearing to read "Salvador S. Aquino Jr.", is written over the typed name.

SALVADOR S. AQUINO JR.
CHIEF ESTIMATOR
Burtech Pipeline Inc.

Cc: Dominic Burtech, File



THE CITY OF SAN DIEGO

Purchasing and Contracting Department
Contracting Division
1200 Third Avenue, Suite 200
San Diego, CA 92101
(619) 236-6000

FAX TRANSMITTAL

Date: March 27, 2013

The following 6 pages (including this cover) are intended for:

To:	Estimator	From:	Celia Navarro
Company:	Burtech Pipeline Inc.	Division:	Contracting Division
FAX #	(760) 634-2415	FAX #	619-533-3633
Phone #	(760) 634-2822	Phone #	619-533-3431

RE: Bid # K-13-5449-DBB-3 – Sewer and Water Group 758

COMMENTS:

In tabulating the bid results of subject project, we have found that the ESTIMATED TOTAL BASE BID is **\$4,141,243.92** NOT **\$4,140,000.00** as per your bid.

Please FAX acknowledgement/concurrence of the correct amount, by 4:00pm today.

If there are any problems with receiving this FAX transmission (such as missing pages), please contact the Sender at the "From" phone number given above.

THIS MESSAGE IS INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY TO WHICH IT IS ADDRESSED, AND MAY CONTAIN INFORMATION THAT IS PRIVILEGED, CONFIDENTIAL AND EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW, RECEIPT BY AN UNINTENDED RECIPIENT DOES NOT CONSTITUTE A WAIVER OF ANY APPLICABLE PRIVILEGE.

If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone, and return the original message to us at the above address via the U.S. Postal Service.

City of San Diego

CONTRACTOR'S NAME: BURTECH PIPELINE INCORPORATED
ADDRESS: 102 SECOND STREET, ENCINITAS, CA 92024
TELEPHONE NO.: (760) 634-2822 FAX NO.: (760) 634-2415
CITY CONTACT: CLEMENTINA GIORDANO - CONTRACT SPECIALIST, Email: cgiordano@sanidiego.gov
Phone: (619) 533-3481, Fax: (619) 533-3633
L.Schaar/BDoringo/egz



CONTRACT DOCUMENTS FOR

SEWER AND WATER GROUP 758

VOLUME 2 OF 2

BID NO.: K-13-5449-DBB-3
SAP NO. (WBS/IO/CC): B-00365 / B-00074
CLIENT DEPARTMENT: 2011 / 2013
COUNCIL DISTRICT: 2
PROJECT TYPE: JA / KB

THIS CONTRACT IS SUBJECT TO THE FOLLOWING:

- PHASED-FUNDING
- THE CITY'S SUBCONTRACTING PARTICIPATION REQUIREMENTS FOR SLBE PROGRAM.

**THIS BIDDING DOCUMENT TO BE SUBMITTED IN ITS ENTIRETY
REFER TO VOLUME 1 COVER PAGE FOR TIME, DATE, AND LOCATION**

TABLE OF CONTENTS

Volume 2 - BIDDING Documents

The following forms must be completed in their entirety and submitted with the Bid. Include the form(s) even if the information does not apply. Where the information does not apply write in N/A. Failure to include any of the forms may cause the Bid to be deemed **non-responsive**. If you are uncertain or have any questions about any required information, contact the City no later than 14 days prior to Bid due date.

1. Bid/Proposal.....	3
2. Bid Bond.....	6
3. Non-Collusion Affidavit to be executed by Bidder and Submitted with Bid under 23 USC 112 and PCC 7106	7
4. Contractors Certification of Pending Actions	8
5. Equal Benefits Ordinance Certification of Compliance.....	9
6. Proposal (Bid)	10
7. Form AA35 List of Subcontractors.....	16
8. Form AA40 Named Equipment/Material Supplier List.....	17
9. Form AA45 Subcontractor Additive/Deductive Alternate	18

PROPOSAL

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.

IF A SOLE OWNER OR SOLE CONTRACTOR SIGN HERE:

- (1) Name under which business is conducted _____
- (2) Signature (Given and surname) of proprietor _____
- (3) Place of Business (Street & Number) _____
- (4) City and State _____ Zip Code _____
- (5) Telephone No. _____ Facsimile No. _____

IF A PARTNERSHIP, SIGN HERE:

- (1) Name under which business is conducted _____
- (2) Name of each member of partnership, indicate character of each partner, general or special (limited):

BIDDING DOCUMENTS

(3) Signature (Note: Signature must be made by a general partner)

Full Name and Character of partner

(4) Place of Business (Street & Number) _____

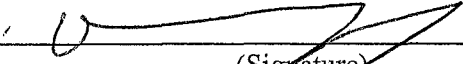
(5) City and State _____ Zip Code _____

(6) Telephone No. _____ Facsimile No. _____

IF A CORPORATION, SIGN HERE:

(1) Name under which business is conducted BURTECH PIPELINE INCORPORATED

(2) Signature, with official title of officer authorized to sign for the corporation:



(Signature)
DOMINIC J. BURTECH

(Printed Name)
PRESIDENT & CEO

(Title of Officer)

(Impress Corporate Seal Here)

(3) Incorporated under the laws of the State of CALIFORNIA

(4) Place of Business (Street & Number) 102 SECOND STREET

(5) City and State ENCINITAS, CALIFORNIA Zip Code 92024

(6) Telephone No. (760) 634-2822 Facsimile No. (760) 634-2415

BIDDING DOCUMENTS

THE FOLLOWING SECTIONS MUST BE FILLED IN BY ALL PROPOSERS:

In accordance with the "NOTICE INVITING BIDS", the bidder holds a California State Contractor's license for the following classification(s) to perform the work described in these specifications:

LICENSE CLASSIFICATION CLASS A

LICENSE NO. 718202 EXPIRES JANUARY 31, 2014

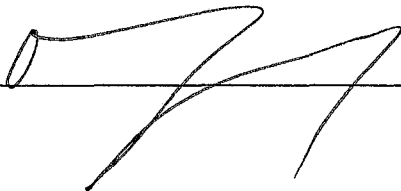
This license classification must also be shown on the front of the bid envelope. Failure to show license classification on the bid envelope may cause return of the bid unopened.

TAX IDENTIFICATION NUMBER (TIN): [REDACTED]

E-Mail Address: BUDDY@BURTECHPIPELINE.COM

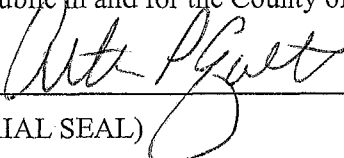
THIS PROPOSAL MUST BE NOTARIZED BELOW:

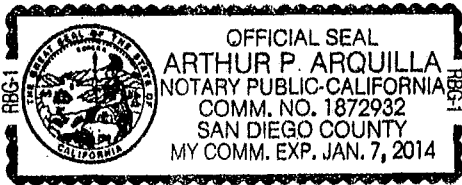
I certify, under penalty of perjury, that the representations made herein regarding my State Contractor's license number, classification and expiration date are true and correct.

Signature  Title PRESIDENT & CEO

SUBSCRIBED AND SWORN TO BEFORE ME, THIS 25 DAY OF March, 2013

Notary Public in and for the County of San Diego, State of CA


(NOTARIAL SEAL)



BIDDING DOCUMENTS

BID BOND

KNOW ALL MEN BY THESE PRESENTS,

That BURTECH PIPELINE, INCORPORATED as Principal, and
NORTH AMERICAN SPECIALTY INSURANCE COMPANY as Surety, are
held and firmly bound unto The City of San Diego hereinafter called "OWNER," in the sum of
10% OF THE TOTAL BID AMOUNT for the payment of which sum, well and truly to be made,
we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally,
firmly by these presents.

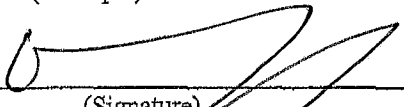
WHEREAS, said Principal has submitted a Bid to said OWNER to perform the WORK required
under the bidding schedule(s) of the OWNER's Contract Documents entitled

SEWER AND WATER GROUP 758, BID NO. K-13-5449-DBB-3

NOW THEREFORE, if said Principal is awarded a contract by said OWNER and, within the time
and in the manner required in the "Notice Inviting Bids" enters into a written Agreement on the form
of agreement bound with said Contract Documents, furnishes the required certificates of insurance,
and furnishes the required Performance Bond and Payment Bond, then this obligation shall be null
and void, otherwise it shall remain in full force and effect. In the event suit is brought upon this bond
by said OWNER and OWNER prevails, said Surety shall pay all costs incurred by said OWNER in
such suit, including a reasonable attorney's fee to be fixed by the court.

SIGNED AND SEALED, this 12TH day of MARCH, 2013

BURTECH PIPELINE, INCORPORATED (SEAL)
(Principal)

By: 
(Signature)

DOMINIC J. BURTECH, JR., PRESIDENT

(SEAL AND NOTARIAL ACKNOWLEDGEMENT OF SURETY)

NORTH AMERICAN
SPECIALTY INSURANCE COMPANY (SEAL)
(Surety)

By: 
(Signature)

MARK D. IATAROLA, ATTORNEY-IN-FACT

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

STATE OF CALIFORNIA

County of SAN DIEGO }

On 3/12/2013 before me, MICHELLE M. BASUIL, NOTARY PUBLIC
Date 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.



Place Notary Seal 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 Michelle M. Basuil
Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: BID BOND

Document Date: 3/12/2013 Number of Pages: 1

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: MARK D. IATAROLA

- Individual
- Corporate Officer — Title(s): _____
- Partner — Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____

RIGHT THUMBPRINT OF SIGNER

Top of thumb here

Signer Is Representing:

Signer's Name: _____

- Individual
- Corporate Officer — Title(s): _____
- Partner — Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____

RIGHT THUMBPRINT OF SIGNER

Top of thumb here

Signer Is Representing:

NAS SURETY GROUP

NORTH AMERICAN SPECIALTY INSURANCE COMPANY
WASHINGTON INTERNATIONAL INSURANCE COMPANY

GENERAL POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, THAT North American Specialty Insurance Company, a corporation duly organized and existing under laws of the State of New Hampshire, and having its principal office in the City of Manchester, New Hampshire, and Washington International Insurance Company, a corporation organized and existing under the laws of the State of New Hampshire and having its principal office in the City of Schaumburg, Illinois, each does hereby make, constitute and appoint:

JOHN G. MALONEY, HELEN MALONEY, MICHELLE M. BASUIL,
GLEND A. J. GARDNER, MARK D. IATAROLA and DEBORAH D. DAVIS

JOINTLY OR SEVERALLY

Its true and lawful Attorney(s)-in-Fact, to make, execute, seal and deliver, for and on its behalf and as its act and deed, bonds or other writings obligatory in the nature of a bond on behalf of each of said Companies, as surety, on contracts of suretyship as are or may be required or permitted by law, regulation, contract or otherwise, provided that no bond or undertaking or contract or suretyship executed under this authority shall exceed the amount of:

FIFTY MILLION (\$50,000,000.00) DOLLARS

This Power of Attorney is granted and is signed by facsimile under and by the authority of the following Resolutions adopted by the Boards of Directors of both North American Specialty Insurance Company and Washington International Insurance Company at meetings duly called and held on the 9th of May, 2012:

"RESOLVED, that any two of the Presidents, any Managing Director, any Senior Vice President, any Vice President, any Assistant Vice President, the Secretary or any Assistant Secretary be, and each or any of them hereby is authorized to execute a Power of Attorney qualifying the attorney named in the given Power of Attorney to execute on behalf of the Company bonds, undertakings and all contracts of surety, and that each or any of them hereby is authorized to attest to the execution of any such Power of Attorney and to attach therein the seal of the Company; and it is

FURTHER RESOLVED, that the signature of such officers and the seal of the Company may be affixed to any such Power of Attorney or to any certificate relating thereto by facsimile, and any such Power of Attorney or certificate bearing such facsimile signatures or facsimile seal shall be binding upon the Company when so affixed and in the future with regard to any bond, undertaking or contract of surety to which it is attached."



By [Signature]
Steven P. Anderson, Senior Vice President of Washington International Insurance Company
& Senior Vice President of North American Specialty Insurance Company



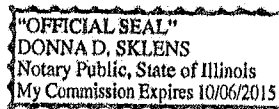
By [Signature]
David M. Layman, Vice President of Washington International Insurance Company
& Vice President of North American Specialty Insurance Company

IN WITNESS WHEREOF, North American Specialty Insurance Company and Washington International Insurance Company have caused their official seals to be hereunto affixed, and these presents to be signed by their authorized officers this 10th day of December, 2012.

North American Specialty Insurance Company
Washington International Insurance Company

State of Illinois
County of Cook ss:

On this 10th day of December, 2012, before me, a Notary Public personally appeared Steven P. Anderson, Senior Vice President of Washington International Insurance Company and Senior Vice President of North American Specialty Insurance Company and David M. Layman, Vice President of Washington International Insurance Company and Vice President of North American Specialty Insurance Company, personally known to me, who being by me duly sworn, acknowledged that they signed the above Power of Attorney as officers of and acknowledged said instrument to be the voluntary act and deed of their respective companies.



[Signature]
Donna D. Sklens, Notary Public

I, Jeffrey Goldberg, the duly elected Assistant Secretary of North American Specialty Insurance Company and Washington International Insurance Company, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney given by said North American Specialty Insurance Company and Washington International Insurance Company, which is still in full force and effect.

IN WITNESS WHEREOF, I have set my hand and affixed the seals of the Companies this 12th day of MARCH, 2013.

[Signature]
Jeffrey Goldberg, Vice President & Assistant Secretary of
Washington International Insurance Company & North American Specialty Insurance Company

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California

County of San Diego }

On 3/25/13

Date

before me, **Arthur P. Arquilla, Notary Public**

Here Insert Name and Title of the Officer

personally appeared Dominic Burtch

Name(s) of Signer(s)

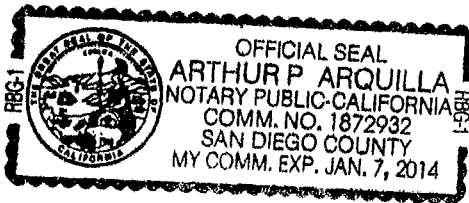
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s),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

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

WITNESS my hand and official seal.

Signature _____

Signature of Notary Public



Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: _____

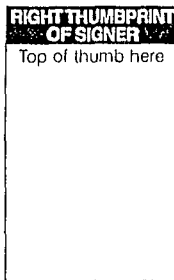
Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____

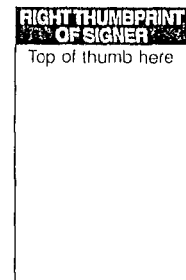
- Individual
- Corporate Officer — Title(s): _____
- Partner — Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____



Signer Is Representing: _____

Signer's Name: _____

- Individual
- Corporate Officer — Title(s): _____
- Partner — Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____



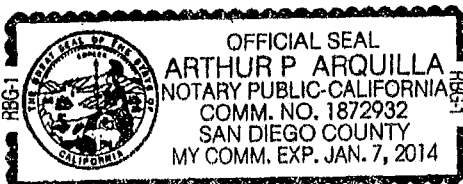
Signer Is Representing: _____

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) ss.

DOMINIC J. BURTECH, being first duly sworn, deposes and says that he is PRESIDENT & CEO of 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.

Signed: [Signature]
Title: PRESIDENT & CEO



Subscribed and sworn to before me this 25 day of March, 2013
[Signature]
Notary Public

(SEAL)

CONTRACTORS 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 ten 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.

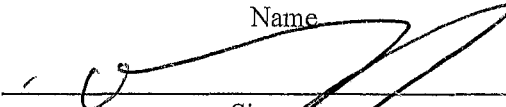
- The undersigned certifies that within the past 10 years the Bidder has NOT been the subject of a complaint or pending action in a legal administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors or suppliers.

- 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: BURTECH PIPELINE INCORPORATED

Certified By DOMINIC J. BURTECH Title PRESIDENT & CEO

Name

 Signature

Date 3/26/13

USE ADDITIONAL FORMS AS NECESSARY

BIDDING DOCUMENTS

**EQUAL BENEFITS ORDINANCE
CERTIFICATION OF COMPLIANCE**



For additional information, contact:

CITY OF SAN DIEGO

EQUAL BENEFITS PROGRAM

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

Phone (619) 533-3948 Fax (619) 533-3220

COMPANY INFORMATION

Company Name: BURTECH PIPELINE INCORPORATED	Contact Name: Dominic J. Burtech
Company Address: 102 Second Street, Encinitas, CA 92024	Contact Phone: (760) 634-2822
	Contact Email: buddy@burtechpipeline.com

CONTRACT INFORMATION

Contract Title: SEWER AND WATER GROUP 758	Start Date: JULY 2013
Contract Number (If no number, state location): K-13-5449-DBB-3	End Date: MARCH 2014

SUMMARY OF EQUAL BENEFITS ORDINANCE REQUIREMENTS

The Equal Benefits Ordinance [EBO] requires the City to enter into contracts only with contractors who certify they will provide and maintain equal benefits as defined in SDMC §22.4302 for the duration of the contract. To comply:

- Contractor shall offer equal benefits to employees with spouses and employees with domestic partners.
 - Benefits include health, dental, vision insurance; pension/401(k) plans; bereavement, family, parental leave; discounts, child care; travel/relocation expenses; employee assistance programs; credit union membership; or any other benefit.
 - Any benefit not offer an employee with a spouse, is not required to be offered to an employee with a domestic partner.
- Contractor shall post notice of firm's equal benefits policy in the workplace and notify employees at time of hire and during open enrollment periods.
- Contractor shall allow City access to records, when requested, to confirm compliance with EBO requirements.
- Contractor shall submit *EBO Certification of Compliance*, signed under penalty of perjury, prior to award of contract.

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

CONTRACTOR EQUAL BENEFITS ORDINANCE CERTIFICATION

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

- I affirm **compliance** with the EBO because my firm (*contractor must select one reason*):
- Provides equal benefits to spouses and domestic partners.
 - Provides no benefits to spouses or domestic partners.
 - Has no employees.
 - Has collective bargaining agreement(s) in place prior to January 1, 2011, that has not been renewed or expired.
- I request the City's approval to pay affected employees a cash equivalent in lieu of equal benefits and verify my firm made a reasonable effort but is not able to provide equal benefits upon contract award. I agree to notify employees of the availability of a cash equivalent for benefits available to spouses but not domestic partners and to continue to make every reasonable effort to extend all available benefits to domestic partners.

It is unlawful for any contractor to knowingly submit any false information to the City regarding equal benefits or cash equivalent associated with the execution, award, amendment, or administration of any contract. [San Diego Municipal Code §22.4307(a)]

Under penalty of perjury under laws of the State of California, I certify the above information is true and correct. I further certify that my firm understands the requirements of the Equal Benefits Ordinance and will provide and maintain equal benefits for the duration of the contract or pay a cash equivalent if authorized by the City.

DOMINIC J. BURTECH, PRESIDENT & CEO

Name/Title of Signatory

Signature

FOR OFFICIAL CITY USE ONLY

Receipt Date: _____ EBO Analyst: _____ Approved Not Approved – Reason: _____

rev 02/15/2011

BIDDING DOCUMENTS

PROPOSAL (BID)

The Bidder agrees to the construction of **SEWER AND WATER GROUP 758**, for the City of San Diego, in accordance with these contract documents for the prices listed below. The Bidder guarantees the Contract Price for a period of 120 days (90 days for federally funded contracts and contracts valued at \$500,000 or less) from the date of Bid opening to Award of the Contract. The duration of the Contract Price guarantee shall be extended by the number of days required for the City to obtain all items necessary to fulfill all conditions precedent e.g., bond and insurance.

Item	Quantity	Unit	Payment Reference	NAICS	Description	Unit Price	Extension
BASE BID							
SEWER AND WATER GROUP 758							
COMMON ITEMS							
1.	1	EA	3-3.2.2.1	237110	Certified Payroll	\$ 100.-	\$ 100.-
2.	1	LS	7-9.1.1	238990	Video Recording of Pre-existing Conditions	2,250.-	\$ 2,250.-
3.	1	LS	7-10.2.6	237310	Traffic Control	40,000.-	\$ 40,000.-
4.	1	LS	9-3.4.1	237110	Mobilization	27,000.-	\$ 27,000.-
5.	1	LS	2-4.1	237110	Bonds (Payment and Performance)	32,584.18	\$ 32,584.18
6.	1	AL	9-3.5		Field Orders - Type II Allowance	150,000.00	\$150,000.00
7.	2	EA	301-1.7	237310	Adjusting Existing Manhole Frame & Cover to Grade	\$ 350.-	\$ 700.-
8.	14	EA	301-1.7	237310	Adjusting Existing Gate Valve Cover to Grade	\$ 250.-	\$ 3,500.-
9.	12,390	LF	302-1.12	237310	Cold Milling Asphalt Concrete Pavement (1 1/2")	\$ 1.86	\$ 23,045.40
10.	218,168	SF	302-4.12.4	237310	Rubber Polymer Modified Slurry Type II and Striping	\$ 0.38	\$ 82,903.84
11.	3	TON	302-3.4	237310	Asphalt Pavement Repair	\$ 260.-	\$ 780.-
12.	1	LS	302-4.13	237310	Bond for Slurry Seal	100.-	\$ 100.-
13.	1,500	SF	302-5.2.1	237310	Pavement Restoration Adjacent to Trench	\$ 7.-	\$ 10,500.-
14.	1,832	TON	302-5.9	237310	1-1/2 Inch Asphalt Concrete Overlay and Striping	\$ 95.-	\$ 174,040.-
15.	22,696	SY	302-7.4	237310	Pavement Fabric	\$ 3.13	\$ 71,038.48
16.	1,000	LB	302-14.5	237310	Crack Seal	\$ 5.20	\$ 5,200.-
17.	10	EA	303-5.9	237310	Contractor Date Stamp and Impressions	\$ 172.50	\$ 1,725.-
18.	250	LF	303-5.9	237310	Additional Curb & Gutter	\$ 23.-	\$ 5,750.-

BIDDING DOCUMENTS

Item	Quantity	Unit	Payment Reference	NAICS	Description	Unit Price	Extension
19.	325	SF	303-5.9	237310	Additional Sidewalk Removal & Replacement	\$ 5.-	\$ 1,625.-
20.	260	SF	303-5.9	237310	Alley Apron	\$ 10.-	\$ 2,600.-
21.	18	EA	303-5.10.2	237310	Curb Ramp Type C1 with Detectable Warning tile	\$ 2,070.-	\$ 37,260.-
22.	11	EA	303-5.10.2	237310	Curb Ramp Type C2 with Detectable Warning tile	\$ 2,100.-	\$ 23,100.-
23.	4	EA	303-5.10.2	237310	Curb Ramp Type D with Detectable Warning tile	\$ 1,725.-	\$ 6,900.-
24.	1	LS	306-1.1.6	237110	Trench Shoring	 	\$ 30,000.-
25.	151	CY	306-1.2.1.1	237110	Additional Bedding	\$ 1.-	\$ 151.-
26.	900	TON	306-1.6	237110	Imported Backfill	\$ 5.-	\$ 4,500.-
27.	613	TON	306-1.5.1	237310	Temporary Resurfacing	\$ 98.-	\$ 60,074.-
28.	105	CY	300-1.4	237310	Additional Pavement Removal & Disposal	\$ 35.-	\$ 3,675.-
29.	1	EA	309-4	541370	Survey Monument	\$ 500.-	\$ 500.-
30.	1	LS	701-13.9.5	541330	Water Pollution Control Program Development	 	\$ 600.-
31.	1	LS	701-13.9.5	237990	Water Pollution Control Program Implementation	 	\$ 3,500.-
32.	1,105,000	GAL	705-2.7	237110	Dewatering Non Hazardous Contaminated Water	\$ 0.01	\$ 11,050.-
33.	1	AL	705-2.7	237110	Dewatering Permit and Discharge Fees - Type I	 	\$500,000.00
34.	5	DAYS	707-1	541310	Suspension of Work -Resources	\$ 100.-	\$ 500.-
35.	11,060	LF	707-2	541330	Archeological and Native American Monitoring Program	\$ 5.17	\$ 57,180.20
36.	5,080	LF	707-3	541330	Paleontological Monitoring Program	\$ 1.40	\$ 7,112.-
37.	1	AL	707-4	541330	Archeological and Native American Mitigation and Curation- Type I	 	\$15,000.00
38.	2,370	CY	707-5	541330	Paleontological Mitigation Excavation	\$ 3.-	\$ 7,110.-
SEWER ITEMS							
39.	12,747	LF	306-9.7	237110	Video inspecting pipelines and culverts Televising for Acceptance	\$ 0.60	\$ 7,648.20
40.	12,747	LF	306-9.7	237110	Cleaning and Video inspecting pipelines and culverts	\$ 1.15	\$ 14,659.05
41.	7,478	LF	306-1.6	237110	8-Inch Sewer Main	\$ 60.00 \$ 448,680.00	\$ 330,628.00 \$ 448,680.00
42.	4,421	LF	306-1.6	237110	8-Inch Sewer Main, Special Strength SDR-26	\$ 68.00 \$ 300,628.00	\$ 300,628.00 \$ 300,628.00

BIDDING DOCUMENTS

Item	Quantity	Unit	Payment Reference	NAICS	Description	Unit Price	Extension
43.	16	EA	306-1.9.1	237110	4-Inch Sewer Lateral & Cleanout (Alley)	\$ 1,000.-	\$ 16,000.-
44.	215	EA	306-1.9.1	237110	4-Inch Sewer Lateral & Cleanout (Street)	\$ 1,400.-	\$ 301,000.- 300,400.-
45.	6	EA	306-1.9.1	237110	6-Inch Sewer Lateral & Cleanout (Street)	\$ 1,900.-	\$ 11,400.-
46.	1	EA	306-1.9.1	237110	6-Inch Sewer Lateral & Cleanout (Alley)	\$ 1,200.-	\$ 1,200.-
47.	1	EA	306-1.9.1	237110	4-Inch Sewer Lateral Connection	\$ 600.-	\$ 600.-
48.	1	EA	306-1.9.2.5	237110	6-Inch Sewer Lateral with Private Replumbing 2551 Worden St	\$ 6,500.-	\$ 6,500.-
49.	57	EA	306-1.8.6	237110	Manholes (4 x 3)	\$ 4,300.-	\$ 245,100.-
50.	2	EA	306-1.8.6	237110	Manholes (5 x 3) PVC Lined	\$ 13,000.-	\$ 26,000.-
51.	1	EA	306-1.8.6	237110	Connection to Existing Manhole & Rechanneling	\$ 5,000.-	\$ 5,000.-
52.	11	EA	306-5.3	237110	Abandon Existing Manhole Outside of Trench	\$ 1,500.-	\$ 16,500.-
53.	5,965	LF	306-5.3	237110	Abandon and Fill Existing 8-Inch Sewer Mains Outside of Trench Limit	\$ 3.25	\$ 19,386.25
54.	2	EA	306-5.3	237110	Abandon Existing Manhole Deeper than New Pipe	\$ 1,000.-	\$ 2,000.-
55.	848	LF	500-1.1.9	237110	Rehabilitate 8-Inch Sewer Main	\$ 38.80	\$ 32,902.40
56.	30	LF	500-1.6.2.6	237110	Service Lateral Lining	\$ 80.-	\$ 2,400.-
57.	11	EA	500-1.6.2.6	237110	6" Service Lateral Connection and Sealing	\$ 1,400.-	\$ 15,400.-
58.	5	EA	500-2.10.2	237110	Rehabilitate Existing Manhole	\$ 2,600.-	\$ 13,000.-
59.	1	LS	704-4	237110	Sewage Bypass & Pumping Plan (Diversion Plan)	XXXXXX	\$ 6,800.-
WATER ITEMS							
60.	1	EA	306-1.6	237110	8-Inch Gate Valve	\$ 1,750.-	\$ 1,750.-
61.	4	EA	306-1.6	237110	12-Inch Gate Valve	\$ 3,000.-	\$ 12,000.-
62.	292	LF	306-1.6	237110	12-Inch Water Main	\$ 82.26	\$ 24,019.92
63.	1	EA	306-14.1	237110	1-Inch Water Service	\$ 2,000.-	\$ 2,000.-
64.	2	EA	306-14.1	237110	2-Inch Water Service	\$ 3,000.-	\$ 6,000.-
65.	400	SF	600-1.3.1.5	237110	Pavement Restoration for City Forces Final Connection	\$ 15.-	\$ 6,000.-
Estimated Base Bid:							\$ 2,947,284.00

03/1

BIDDING DOCUMENTS

Item	Quantity	Unit	Payment Reference	NAICS	Description	Unit Price	Extension
ADDITIVE ALTERNATE "A"							
1.	100	HOUR	703-20	238990	Monitoring of Petroleum Contaminated Soil	\$ 79.50	\$ 7,450.-
2.	892	TON	703-20	238990	Testing, Sampling, Site Storage and Handling of Petroleum Contaminated Soil	\$ 15.-	\$ 13,380.-
3.	892	TON	703-20	238990	Loading, Transportation, and Disposal of Petroleum Contaminated Soil	\$ 65.50	\$ 58,426.-
4.	65,000	GAL	703-20	238990	Testing, Sampling, Site Storage, Handling, Transportation & Disposal of Non- RCRA Hazardous Waste Contamination From The Treatment of Petroleum Contaminated Ground Water	\$ 1.72	\$ 111,800.-
5.	130,000	GAL	703-20	238990	Testing, Sampling, Site Storage, Handling, Transportation & Disposal of RCRA Hazardous Waste Petroleum Contamination From The Treatment of Contaminated Ground Water	\$ 2.30	\$ 299,000.-
6.	1	LS	703-20	238990	Community Health and Safety Plan	 	\$ 5,000.-
7.	1	LS	703-20	238990	Preparation of Hazardous Waste Management Plan and Reporting	 	\$ 3,450.-
8.	1	AL	703-20	238990	HAZWOPER Training and Certification for City Staff - Type I	 	\$25,000.00
9.	1	AL	705-2.7	238990	Dewatering Hazardous Contaminated Water (includes peripheral equipment to treat petroleum contaminated ground water)	 	\$60,000.00
10.	1	LS	705-2.7	237110	Dewatering Non-Hazardous Contaminated Water (includes standard equipment required for dewatering and management)	 	\$ 165,000.00
Estimated Additive Alternate "A"							\$ 748,506.00
ADDITIVE ALTERNATE "B"							
1.	1	EA	306-1.6	237110	8-Inch Gate Valve	\$ 1,750.-	\$ 1,750.-
2.	3	EA	306-1.6	237110	12-Inch Gate Valve	\$ 3,000.-	\$ 9,000.- <i>0384</i>
3.	5	EA	306-1.6	237110	16-Inch Butterfly Valve	\$ 4,000.-	\$ 20,000.-
4.	380	LF	306-1.6	237110	16-Inch Water Main	\$ 150.-	\$ 57,000.-
5.	62	LF	306-1.6	237110	8-Inch Water Main	\$ 130.-	\$ 8,060.-
6.	13	EA	306-1.6	237110	Thrust Anchor	\$ 300.-	\$ 3,900.-

BIDDING DOCUMENTS

Item	Quantity	Unit	Payment Reference	NAICS	Description	Unit Price	Extension
7.	1	LS	306-5.3	237110	Removal or Abandon of Existing Pressure Reducing Station (PRS)	 	\$ 8,000.-
8.	1	EA	306-14.1	237110	2-Inch Water Service	\$ 4,300.-	\$ 4,300.-
9.	1	EA	306-19	237110	2-Inch Air & Vacuum Valve	\$ 5,000.-	\$ 5,000.-
10.	1	LS	306-23	237110	Installation of Pressure Reducing Station (PRS)	 	\$ 208,000.-
11.	400	SF	600-1.3.1.5	237110	Pavement Restoration for City Forces Final Connection	\$ 15.-	\$ 6,000.-
12.	34,400	SF	302-4.12.4	237310	Rubber Polymer Modified Slurry Type II and Striping	\$ 0.50	\$ 17,200.-
Estimated Additive Alternate "B":							\$ 348,210.00
ADDITIVE ALTERNATE "C"							
1.	7	EA	600-1.4.9	237110	Cut & Plug Existing 6" to 12" AC Water Mains	\$ 3,000.-	\$ 21,000.-
2.	1	EA	600-1.4.9	237110	Cut & Plug Existing 16" to 12" PVC Water Mains	\$ 4,000.-	\$ 4,000.-
3.	1	LS	600-1.2.1.3	237110	High-lining By Contractor	 	\$ 15,000.-
4.	16	EA	600-1.3.2.10	237110	6-Inch Through 16-Inch Connections To The Existing System By Contractor	\$ 3,500.-	\$ 56,000.-
Estimated Additive Alternate "C":							\$ 96,000.00
ESTIMATED TOTAL BASE BID PLUS ADDITIVE ALTERNATES "A", "B", AND "C"							\$ 4,140,000.00 4,141,243.92 CW

TOTAL BID PRICE FOR BID (Base Bid Items 1 through 65 PLUS Additive Alternate "A" Items 1 through 10 PLUS Additive Alternate "B" Items 1 through 12 PLUS Additive Alternate "C" Items 1 through 4, inclusive) amount written in words:

Four Million One Hundred Forty Thousand Dollars Only

The Bid shall contain an acknowledgment of receipt of all addenda, the numbers of which shall be filled in on the Bid form. If an addendum or addenda has been issued by the City and not noted as being received by the Bidder, this proposal shall be rejected as being **non-responsive**. The following addenda have been received and are acknowledged in this bid: A

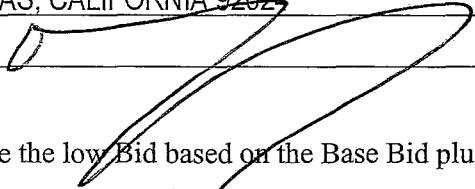
The names of all persons interested in the foregoing proposal as principals are as follows:

DOMINIC J. BURTECH - PRESIDENT & CEO

JULIE J. BURTECH - EXEC. VICE PRESIDENT & SECRETARY

BIDDING DOCUMENTS

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.

Bidder: BURTECH PIPELINE INCORPORATED
Title: DOMINIC J. BURTECH, PRESIDENT & CEO
Business Address: 102 SECOND STREET, ENCINITAS, CA 92024
Place of Business: ENCINITAS, CALIFORNIA 92024
Place of Residence: ENCINITAS, CALIFORNIA 92024
Signature: 

NOTES:

- A. The City shall determine the low Bid based on the Base Bid plus Additive Alternates 'A' and 'B' and 'C'.
- B. After the low Bid has been determined, the City may award the Contract for the Base Bid alone or if applicable, for the Base Bid plus any combination of alternates selected in the City's sole discretion.
- C. Prices and notations shall be in ink or typewritten. All corrections (which have been initiated by the Bidder using erasures, strike out, line out, or "white-out") shall be typed or written in with ink adjacent thereto, and shall be initialed in ink by the person signing the bid proposal.
- D. Failure to initial all corrections made in the bidding documents shall cause the Bid to be rejected as **non-responsive** and ineligible for further consideration.
- E. Blank spaces must be filled in, using figures. Bidder's failure to submit a price for any Bid item that requires the Bidder to submit a price shall render the Bid **non-responsive** and shall be cause for its rejection.
- F. Unit prices shall be entered for all unit price items. Unit prices shall not exceed two (2) decimal places. If the Unit prices entered exceed two (2) decimal places, the City will only use the first two digits after the decimal points without rounding up or down.
- G. All extensions of the unit prices bid will be subject to verification by the City. In the case of inconsistency or conflict between the product of the Quantity x Unit Price and the Extension, the product shall govern.
- H. In the case of inconsistency or conflict, between the sums of the Extensions with the estimated total Bid, the sum of the Extensions shall govern.
- I. Bids shall not contain any recapitulation of the Work. Conditional Bids will be rejected as being **non-responsive**. Alternative proposals will not be considered unless called for.

BIDDING DOCUMENTS

LIST OF SUBCONTRACTORS

In accordance with the requirements provided in the "Subletting and Subcontracting Fair Practices Act", Division 2, Part 1, Chapter 4 of the Public Contract Code, the Bidder shall list below the name and address of each Subcontractor who will perform work, labor, render services or 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 list below the portion of the work which will be done 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 shall result in the Bid being rejected as **non-responsive** and ineligible for award. The Bidder's attention is directed to the Special Provisions - General; Paragraph 2-3 Subcontracts, which stipulates the percent of the Work to be performed with the Bidders' own forces. The Bidder shall list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, SDB, WoSB, HUBZone, and SDVOSB Subcontractors that Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB	WHERE CERTIFIED	CHECK IF JOINT VENTURE PARTNERSHIP
Name: <u>YBS Concrete Inc.</u> Address: <u>821 Kuhn Dr. Ste. 204,</u> City: <u>Chula Vista</u> State: <u>CA</u> Zip: <u>91914</u> Phone: <u>619-271-6122</u>	Constructor	Curb Ramps	\$ 68,355.00	ELBE	City	-
Name: <u>Sealright Paving</u> Address: <u>P.O. Box 2783</u> City: <u>Spring Valley</u> State: <u>CA</u> Zip: <u>91979</u> Phone: <u>619-465-7411</u>	Constructor	Coldmilting, Overlay, Fabric, AC Overlay, Base Paving	\$ 338,000.00 405,000.00 DJB	SLBE	City	-
Name: <u>Brian F. Smith & Assoc.</u> Address: <u>14010 Poway Rd. Ste. A</u> City: <u>Poway</u> State: <u>CA</u> Zip: <u>92064</u> Phone: <u>858-619-8218</u>	Constructor	Archaeo, Paleo. & Native Monitoring	\$ 76,871.00	SLBE	City	-

- 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 | San Diego Regional Minority Supplier Diversity Council | SRMSDC |
| 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 participations percentages if the Bidder fails to submit the required proof of certification (except for OBE, SLBE and ELBE).

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BIDDING DOCUMENTS

LIST OF SUBCONTRACTORS

In accordance with the requirements provided in the "Subletting and Subcontracting Fair Practices Act", Division 2, Part 1, Chapter 4 of the Public Contract Code, the Bidder shall list below the name and address of each Subcontractor who will perform work, labor, render services or 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 list below the portion of the work which will be done 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 shall result in the Bid being rejected as **non-responsive** and ineligible for award. The Bidder's attention is directed to the Special Provisions - General; Paragraph 2-3 Subcontracts, which stipulates the percent of the Work to be performed with the Bidders' own forces. The Bidder shall list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, SDB, WoSB, HUBZone, and SDVOSB Subcontractors that Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB [ⓐ]	WHERE CERTIFIED [ⓑ]	CHECK IF JOINT VENTURE PARTNERSHIP
Name: <u>G. Scott Asphalt Inc.</u> Address: <u>358 Trusdale Dr</u> City: <u>Chula Vista</u> State: <u>CA</u> Zip: <u>91910</u> Phone: <u>619-420-1854</u>	Constructor	RPMs Slurry	\$ 71,821.00	SLBE	CITY	-
Name: <u>Safe-T-Lite</u> Address: <u>777 Cable Way</u> City: <u>El Cajon</u> State: <u>CA</u> Zip: <u>92022</u> Phone: <u>619-441-3644</u>	Designer	Traffic Control Plans	\$ 4,200.00	SLBE	CITY	-
Name: <u>McGrath Consulting</u> Address: <u>P.O. Box 20205</u> City: <u>El Cajon</u> State: <u>CA</u> Zip: <u>92021</u> Phone: <u>619-250-2025</u>	Designer	WPCP Dcvf	\$ 495.00	ELBE	CITY	-

- ⓐ As appropriate, Bidder shall identify Subcontractor as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):
- | | | | |
|---|--------|--|---------|
| Certified Minority Business Enterprise | MBE | Certified Woman Business Enterprise | WBE |
| Certified Disadvantaged Business Enterprise | DBE | Certified Disabled Veteran Business Enterprise | DVBE |
| Other Business Enterprise | OBE | Certified Emerging Local Business Enterprise | ELBE |
| Certified Small Local Business Enterprise | SLBE | Small Disadvantaged Business | SDB |
| Woman-Owned Small Business | WoSB | HUBZone Business | HUBZone |
| Service-Disabled Veteran Owned Small Business | SDVOSB | | |
- ⓑ As appropriate, Bidder shall indicate if Subcontractor is certified by:
- | | | | |
|--|--------|--|----------|
| City of San Diego | CITY | State of California Department of Transportation | CALTRANS |
| California Public Utilities Commission | CPUC | San Diego Regional Minority Supplier Diversity Council | SRMSDC |
| 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 participations percentages if the Bidder fails to submit the required proof of certification (except for OBE, SLBE and ELBE).

BIDDING DOCUMENTS

LIST OF SUBCONTRACTORS

In accordance with the requirements provided in the "Subletting and Subcontracting Fair Practices Act", Division 2, Part 1, Chapter 4 of the Public Contract Code, the Bidder shall list below the name and address of each Subcontractor who will perform work, labor, render services or 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 list below the portion of the work which will be done 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 shall result in the Bid being rejected as **non-responsive** and ineligible for award. The Bidder's attention is directed to the Special Provisions - General; Paragraph 2-3 Subcontracts, which stipulates the percent of the Work to be performed with the Bidders' own forces. The Bidder shall list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, SDB, WoSB, HUBZone, and SDVOSB Subcontractors that Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB	WHERE CERTIFIED	CHECK IF JOINT VENTURE PARTNERSHIP
Name: <u>Arrow Pipeline Repair Inc.</u> Address: <u>1330 Park Center Dr. Ste 101</u> City: <u>Vista</u> State: <u>CA</u> Zip: <u>92081</u> Phone: <u>(760) 476-9388</u>	Constructor	Top Hats	\$12,650.00	SLBE	CITY	-
Name: <u>Sapphire Electric Inc.</u> Address: <u>1908 Don Lee Place Suite 1</u> City: <u>Escondido</u> State: <u>CA</u> Zip: <u>92029</u> Phone: <u>(760) 796-4001</u>	Constructor	Electrical scope for PRS	\$64,773.00	ELBE	CITY	-
Name: <u>Old Castle Precast</u> Address: <u>2735 Cactus Rd.</u> City: <u>San Diego</u> State: <u>CA</u> Zip: <u>92154</u> Phone: <u>(619) 240-8000</u>	constructor	Sewer mH's	\$188,640.00	-	-	-

- 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 | San Diego Regional Minority Supplier Diversity Council | SRMSDC |
| 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 participations percentages if the Bidder fails to submit the required proof of certification (except for OBE, SLBE and ELBE).

BIDDING DOCUMENTS

NAMED EQUIPMENT/MATERIAL SUPPLIER LIST

The Bidder seeking the recognition of equipment, materials, or supplies obtained from Suppliers towards achieving any mandatory, voluntary, or both subcontracting participation percentages shall list the Supplier(s) on the Named Equipment/Material Supplier List. The Named Equipment/Material Supplier List, at a minimum, shall have the name, locations (City) and the **DOLLAR VALUE** of the Suppliers. The Bidder will be credited up to 60% of the amount to be paid to the Suppliers for such materials and supplies unless vendor manufactures or substantially alters materials and supplies in which case 100% will be credited. The Bidder is to indicate (Yes/No) whether listed firm is a supplier or manufacturer. In calculating the subcontractor participation percentages, vendors/suppliers will receive 60% credit of the listed **DOLLAR VALUE**, whereas manufacturers will receive 100% credit. If no indication provided, listed firm will be credited at 60% of the listed dollar value for purposes of calculating the Subcontractor Participation Percentage, Suppliers will receive 60% credit of the listed **DOLLAR VALUE**, whereas manufacturers will receive 100% credit. If no indication provided, listed firm will be credited at 60% of the listed **DOLLAR VALUE** for purposes of calculating the subcontractor participation percentages.

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 SDVOSB ^①	WHERE CERTIFIED ^②
Name: <u>YBS Concrete Inc.</u> Address: <u>821 Kuhn Dr. #204</u> City: <u>Chula Vista</u> State: <u>CA</u> Zip: <u>91914</u> Phone: <u>619-726-7317</u>	<u>Trucking</u>	<u>\$34,000.00</u>	<u>NO</u>	<u>NO</u>	<u>ELBE</u>	<u>CITY</u>
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____						
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____						

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	San Diego Regional Minority Supplier Diversity Council	SRMSDC
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 participations percentages if the Bidder fails to submit the required proof of certification (except for OBE, SLBE and ELBE).

BIDDING DOCUMENTS

SUBCONTRACTORS ADDITIVE/DEDUCTIVE ALTERNATE

(USE ONLY WHEN ADDITIVE ALTERNATES ARE REQUIRED)

Bidder shall list all Subcontractors described in the Bidder's *Base Bid* whose percentage of work will increase or decrease if alternates are selected for award. Bidder shall also list additional Subcontractors not described in the Bidder's *Base Bid* who, as a result of the alternates, will perform work or labor, or render services, or specially fabricate and install a portion [type] of work or improvements in an amount in excess of 0.5%.. The Bidder shall list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, SDB, WoSB, HUBZone, and SDVOSB Subcontractors that Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

ADDITIVE/DEDUCTIVE ALTERNATE	NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB	WHERE CERTIFIED ②	CHECK IF JOINT VENTURE PARTNERSHIP
Additive	Name: <u>Sealright Paving</u> Address: <u>P.O. Box 2753</u> City: <u>Spring Valley</u> State: <u>CA</u> Zip: <u>91979</u> Phone: <u>619.465.7411</u>	Constructor	Asphalt Grind & Overlay	\$3,271.08	SLBE	CITY	—
Additive	Name: <u>Soclaris Contracting</u> Address: <u>7437 Lowell Ct.</u> City: <u>La Mesa</u> State: <u>CA</u> Zip: <u>91941</u> Phone: <u>619.465.3438</u>	Constructor	Items A1 through A5	\$431,548.00	ELBE	CITY	—
	Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____						
	Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____						

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	San Diego Regional Minority Supplier Diversity Council	SRMSDC
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 participations percentages if the Bidder fails to submit the required proof of certification (except for OBE, SLBE and ELBE).

SEWER & WATER GROUP 758

WORK TO BE DONE

CONSTRUCTION CONSISTS OF INSTALLATION OF 8-INCH SEWER MAINS, 12 AND 16-INCH WATER MAINS, WATER SERVICES SEWER LATERALS, SEWER LATERAL REPLUMBS, MANHOLES, CURB RAMPS, RESURFACING, TRAFFIC CONTROL, ABANDONMENT OF EXISTING SEWER MAINS IN EASEMENT, REHAB EXISTING SEWER MAIN, AND ALL OTHER WORK AND APPURTENANCES IN ACCORDANCE WITH THE SPECIFICATIONS AND DRAWINGS NUMBERED 35372-01-D THROUGH 35372-44-D.

CONTRACTOR'S RESPONSIBILITIES

- PURSUANT TO SECTION 4216 OF THE CALIFORNIA GOVERNMENT CODE, AT LEAST 2 WORKING DAYS PRIOR TO EXCAVATION, YOU MUST CONTACT THE REGIONAL NOTIFICATION CENTER (e.g. UNDER GROUND SERVICE ALERT OF SOUTHERN CALIFORNIA) AND OBTAIN AN INQUIRY IDENTIFICATION NUMBER.
- 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)
- LOCATE AND RECONNECT ALL SEWER LATERALS. LOCATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE ONLY, LATERAL RECORDS ARE AVAILABLE AT THE PUBLIC UTILITIES DEPARTMENT, 2797 CAMINITO CHOLLAS. LOCATE THE IMPROVEMENTS THAT WILL BE AFFECTED BY LATERAL REPLACEMENTS.
- EXCAVATE AROUND WATER METER BOX (i.e., CITY PROPERTY SIDE) TO DETERMINE IN ADVANCE, THE SIZE OF EACH SERVICE BEFORE TAPPING THE MAIN.
- CITY FORCES, WHEN SPECIFIED OR SHOWN ON THE PLANS, WILL MAKE PERMANENT CUTS AND PLUGS AND CONNECTIONS.
- KEEP EXISTING MAINS IN SERVICE IN LIEU OF HIGH-LINING, UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE PLANS.
- THE LOCATIONS OF EXISTING BUILDINGS AS SHOWN ON THE PLAN ARE APPROXIMATE.
- KEEP STORM DRAIN INLETS FUNCTIONAL AT ALL TIMES DURING CONSTRUCTION.
- 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 FOR YOUR CONVENIENCE. THE CITY DOES NOT GUARANTEE THAT IT HAS REVIEWED ALL AVAILABLE DATA. PRIOR TO EXCAVATION YOU MUST VERIFY ALL EXISTING UTILITIES EITHER SHOWN ON THE PLANS OR MARKED IN THE FIELD IN ACCORDANCE WITH THE SPECIFICATIONS SECTION 5-1.
- 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.
- ALL CONSTRUCTION RELATED ACTIVITIES THAT MAY HAVE POTENTIAL FOR LEAKAGE SHALL BE MONITORED BY THE QUALIFIED BIOLOGIST/OWNER'S REPRESENTATIVE TO ENSURE THERE IS NO IMPACT TO MHPA.

STORM WATER PROTECTION

- THIS PROJECT IS SUBJECT TO MUNICIPAL STORM WATER PERMIT ORDER NO. R9-2007-0001 AND WPCP

ABBREVIATIONS

ABAND	ABANDON	EB	ENCASED BURIED	OVHD	OVER HEAD
ABAND'D	ABANDONED	EL, ELEV	ELEVATION	PVC	POLYVINYL CHLORIDE
AC	ASBESTOS CEMENT	ELEC	ELECTRIC	PROP	PROPOSED
	PIPE	EX, EXIST	EXISTING	RED	REDUCER
AHD	AHEAD	E/O	EAST OF	RT	RIGHT
ASSY	ASSEMBLY	F	FLANGE	S	SURVEY LINE
BK	BACK	GV	GATE VALVE	SO	STUB OUT
BTWN	BETWEEN	HDPE	HIGH-DENSITY POLYETHYLENE	S/O	SOUTH OF
CATV	CABLE TV	HP	HIGH PRESSURE	SWR	SEWER
CI	CAST IRON PIPE	IE	INVERT ELEVATION	TEL	TELEPHONE
G	CENTER LINE	LT	LEFT	UNK	UNKNOWN
COND	CONDUIT	MJ	MECHANICAL JOINT	VC	VITRIFIED CLAY PIPE
CONT	CONTINUED	MTD	MULTIPLE TELEPHONE DUCT	WM	WATER METER
CONTR	CONTRACTOR	N/O	NORTH OF	WTR	WATER
DB	DIRECT BURIED			W/O	WEST OF

EXISTING STRUCTURES

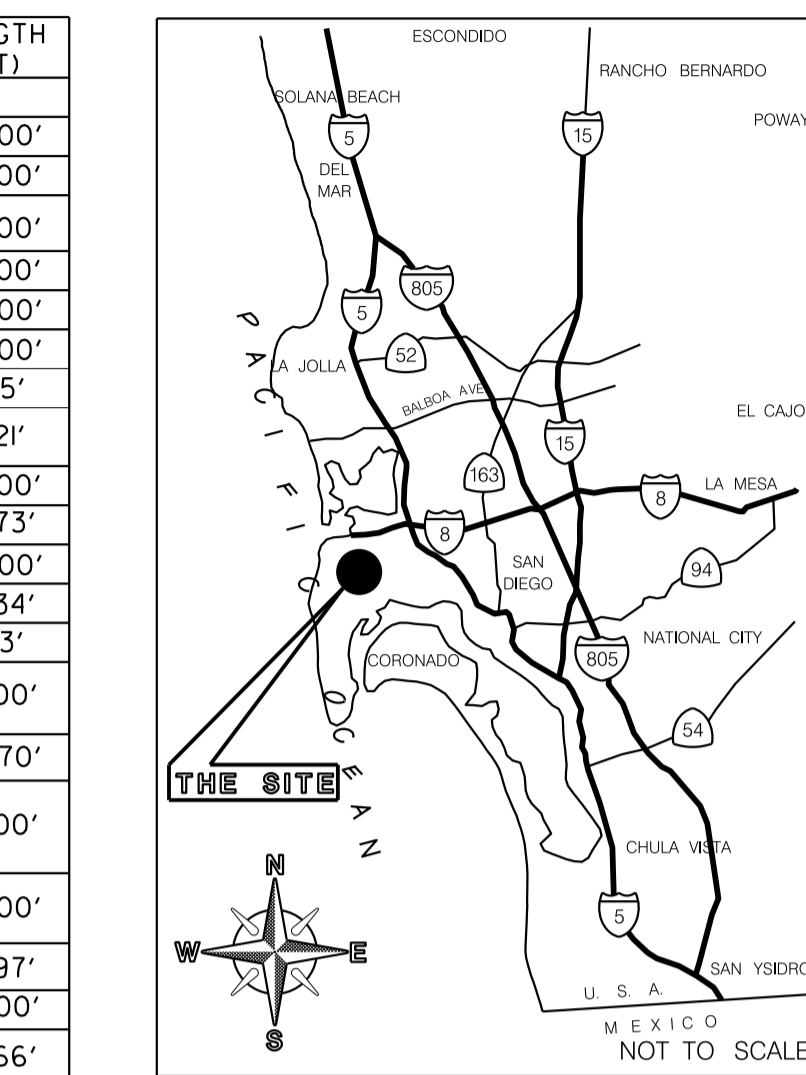
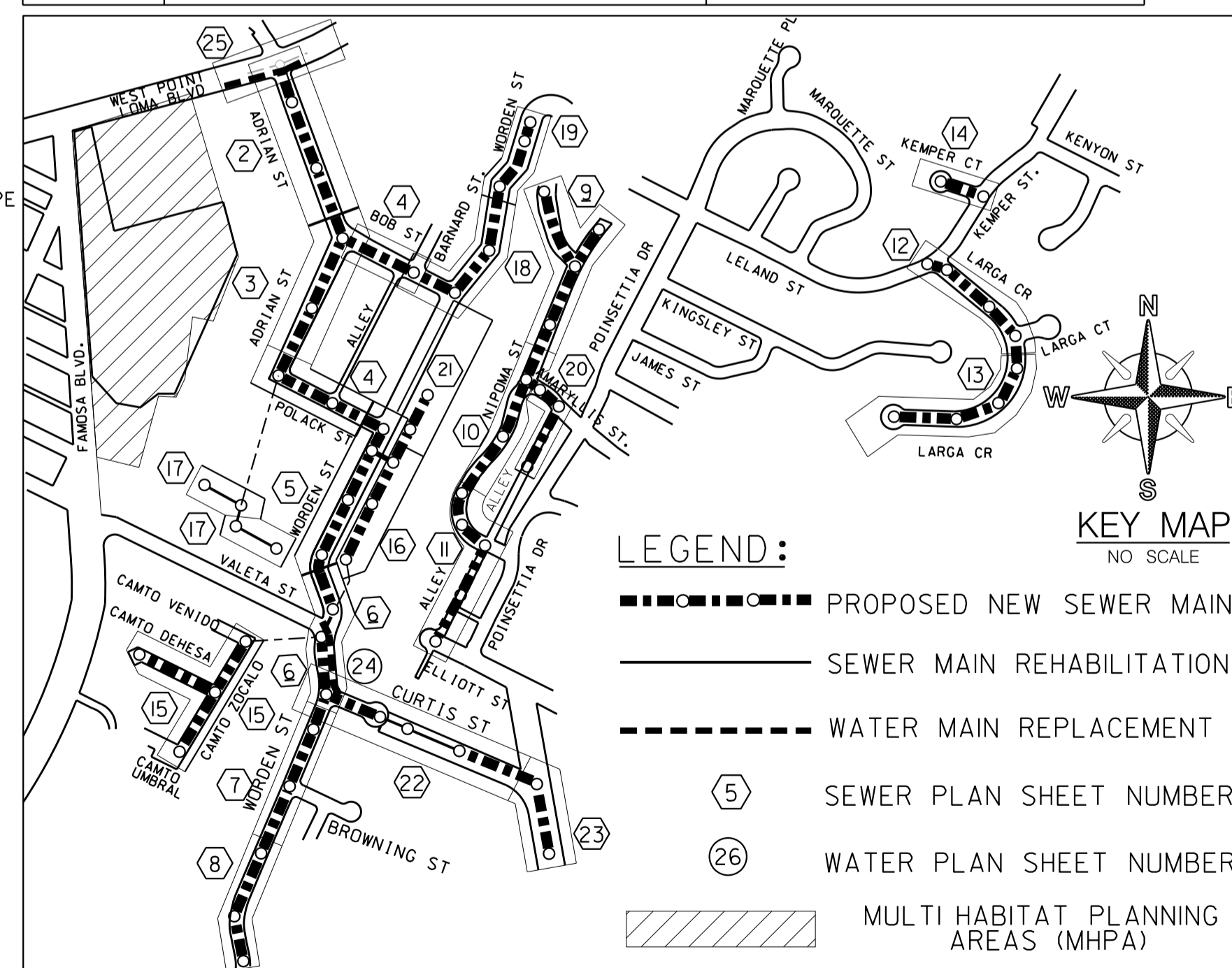
EX WATER MAIN & VALVES	-----○-----
EX WATER METER	-----□-----
EX FIRE HYDRANT	○-----○
EX SEWER MAIN & MANHOLES	-----○-----
EX DRAINS	=====
EX PAVEMENT (PROFILE)	=====
EX GROUND LINE (PROFILE)	=====
EX TRAFFIC SIGNAL	○-----○
EX STREET LIGHT	◆-----◆
POWER POLE	◆-----◆
GAS MAIN	-----○-----
ELEC. COND., TEL. COND., CATV	---E--- T--- C---

LIMITS OF WORK

SHEET NO.	DISC CODE	STREET	LIMITS	PIPE		LENGTH (F.T)
				SIZE (IN)	MATERIAL	
01	G-1	COVER SHT.				
02	C-1	ADRIAN ST.	WEST PT. LOMA BLVD. TO STA 7+00.00	8"	PVC	600.00'
03	C-2	ADRIAN ST.	STA 7+00.00 TO STA 15+00.00	8"	PVC	800.00'
04	C-3	POLACK ST. AND BOB ST.	STA 15+00.00 TO STA 20+00.00	8"	PVC	800.00'
05	C-4	WORDEN ST. & POLACK ST.	ADRIAN ST. TO BARNARD ST.	8"	PVC	700.00'
06	C-5	WORDEN ST.	POLACK ST. TO STA 27+00.00	8"	PVC	600.00'
07	C-6	WORDEN ST.	STA 27+00.00 TO STA 33+00.00	8"	PVC	600.00'
08	C-7	WORDEN ST.	STA 33+00.00 TO STA 39+00.00	8"	PVC	600.00'
09	C-8	WORDEN ST.	STA 39+00.00 TO STA 44+62.15	8"	PVC	562.15'
10	C-9	NIPOMA ST.	STA 1+00.00 TO STA 6+00.00	8"	PVC	704.21'
11	C-10	NIPOMA ST.	STA 6+00.00 TO STA 13+00.00	8"	PVC	700.00'
12	C-11	NIPOMA ST.	STA 13+00.00 TO ELLIOT ST.	8"	PVC	789.73'
13	C-12	LARGA ST.	STA 1+00.00 TO STA 7+00.00	8"	PVC	600.00'
14	C-13	LARGA ST.	STA 7+00.00 TO STA 13+35.34	8"	PVC	635.34'
15	C-14	KEMPER CT.	STA 1+00.00 TO STA 2+99.23	8"	PVC	199.23'
16	C-15	CAMINITO ZOCALO CAMTO DEHESA	STA 1+00.00 TO STA 4+23.00	8"	PVC	522.00'
17	C-16	EASEMENT BLOCK NO.3851	STA 1+00.00 TO STA 6+21.09	8"	PVC	626.70'
18	C-17	WALK WAY	STA 1+00.00 TO STA 3+50.00	8"	PVC	509.00'
19	C-18	BOB ST. TO WORDEN ST.	STA 1+00.00 TO STA 3+08.00	8"	PVC	700.00'
20	C-19	BOB ST. TO WORDEN ST.	STA 04+00.00 TO STA 6+00.00	8"	PVC	483.97'
21	C-20	WORDEN ST.	STA 1+00.00 TO STA 5+80.00	8"	PVC	480.00'
22	C-21	WORDEN ST.	STA 1+00.00 TO STA 1+87.66	8"	PVC	87.66'
23	C-22	CURTIS ST.	STA 1+00.00 TO STA 9+00.00	8"	PVC	800.00'
23	C-22	POINSETTIA DR.	STA 09+00.00 TO STA 11+47.00	8"	PVC	247.00'
				TOTAL		12746.99'

WATER

24	C-23	WORDEN ST. (WATER)	STA 1+00.00 TO STA 3+82.00	12"	PVC	262.00'
25	C-24	W. POINT LOMA BLVD. (WATER)	STA 1+00.00 TO STA 5+00.00	8"	PVC	62.00'
26	C-25	PRESSURE REDUCING STATION DETAILS		16"	PVC	380.00'
27	C-26	PRESSURE REDUCING STATION DETAILS				
28	T-1	ELECTRICAL				
37	C-27	WORK BY CITY FORCES				
38	C-28	REPLUMB DETAILS	WORDEN ST.			
39	C-29	HORIZONTAL ALIGNMENT COORDINATE INDEX REPORT				
40	C-30	HORIZONTAL ALIGNMENT COORDINATE INDEX REPORT				
41	C-31	STREET RESURFACING PLAN				
42	C-32	CURB RAMP PLAN				
43	C-33	STORM DRAIN AND INLET/OUTLET PLAN				
44	C-34	ABANDONMENT PLAN				
T-1	T-1	TRAFFIC CONTROL PLAN				
				TOTAL		704.00'



VICINITY MAP
NOT TO SCALE

DISCIPLINE CODE

- G GENERAL
- C CIVIL
- E ELECTRICAL
- I INSTRUMENTATION

FIELD DATA

BASIS OF BEARINGS/COORDINATES:
THE BASIS OF BEARINGS FOR THIS PROJECT WAS DERIVED FROM A PREVIOUS STATIC GPS SURVEY USING GPS 214 AND GPS AS SHOWN ON R.O.F. S.14492 I.E. N 46 13' 14" W, NAD 83 FEET ZONE 6 (EPOCH 91.35), UTILIZING RTK/GPS FIELD PROCEDURES WITH THE BASE STATION LOCATED AT GPS 157 (PT. 25) CONSTRAINING TO GPS 214 (PT. 26), GPS 237 (PT. 27) AND CHECKING GPS 240 (PT. 88)

BENCHMARK:
EBP NIPOMA ST. & AMARYLLIS ST. ELEV. 129.986
EBP WORDEN ST. & CURTIS ST. ELEV. 28.815
SBP KENYON ST. & KEMPER ST. ELEV. 11.294
NBP WORDEN ST. & BOB ST. ELEV. 42.605
MSL, BASED ON NCD 29 FEET AS SHOWN IN THE CITY OF SAN DIEGO BENCH BOOK

DATUM: MEAN SEA LEVEL

REFERENCES:
MAP 1677, 1820, 2678, 3696, 3724, 3768, 3775, 3798, 3837, 3851, 4494, 5017, 5156, 5191, 5438, 5879, 7189, CR 17196
CITY DWG. 11730-B, 11928-B, 11929-B, 13608-B, 15549-B, 16670-4-D
City of San Diego Survey Field Notes:

FIELD NOTES: D. TICE 210-1698 B00074 B000365 12/24/2003

STREETS REQUIRING 12" TRENCH CAP:
WEST PT. LOMA BLVD.

LEGEND

IMPROVEMENTS	STANDARD DRAWINGS	SYMBOL
TRENCH RESURFACING	SDG-107 TYPE A, SDG-108	---
SEWER MAIN	SDS-101, SDS-108, SDW-162 SDS-110 (TYPE C)	-----○-----
SEWER MANHOLE	SDS-106, SDS-107, M-3, SM-07	○-----○
REHAB. EX. SEWER MANHOLE	SEE PLANS & SPECS	○-----○
SEWER MAIN REHAB.	SEE PLANS & SPECS	○-----○
4" SEWER LATERAL WITH C.O. UNLESS OTHERWISE SPECIFIED	SDS-102, SDS-103, SDS-105, SDS-108 SDS-110 (TYPE C)	P.L. ---○---
REPLUMB SEWER LATERAL WITH C.O.	SDS-102, SDS-103, SDS-105, SDS-108 SDS-110 (TYPE C)	P.L. ---○---
SEWER LATERAL CONNECTION	SEE PLANS & SPECS	P.L. ---○---
REHAB SEWER LATERAL (LINED) WITH C.O.	SEE PLANS & SPECS	P.L. ---○---
SERVICE LATERAL CONNECTION TO REHABILITATED SEWER	SEE PLANS & SPECS	P.L. ---○---
ABANDON EX MANHOLE	SM-08	---○---
CUTTING AND PLUGGING ABANDONED WATER MAIN	WP-03	E-----
SLURRY FILL ABANDONED SEWER MAIN	SEE PLANS & SPECS	E-----
SURVEY MONUMENT	M-10	△
WATER MAIN & APPURTENANCES	SDW-110, SDW-148 SDW-151	-----○-----
VALVES WITH CAPS AND WELLS	SDW-109, SDW-152, SDW-153 SDW-154, WV-05	-----○-----
1" WATER SERVICE UNLESS OTHERWISE SPECIFIED	WS-03, SDW-107, SDW-134, SDW-135 SDW-136, SDW-137, SDW-148 SDW-149, SDW-150	WM P.L. ---○---
AIR & VACUUM VALVE	SDW-117, SDW-148, SDW-159	A.V.
HIGHLINING BY CONTRACTOR	SDW-170, SDW-171, SDW-172, SDW-173	-----○-----
PIPE SUPPORT FOR UNDERCUT AC WATER MAIN	SDW-162	-----○-----
ALLEY APRON	SDG-120	-----○-----
FOR ADDITIONAL SYMBOLS SEE RESURFACING, CURB RAMP, HORIZONTAL ALIGNMENT COORDINATE AND TRAFFIC CONTROL SHEETS.		

G-1

SEWER AND WATER GROUP 758

COVER SHEET

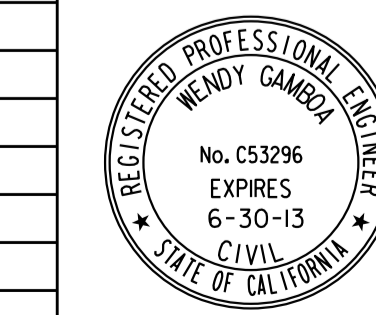
CONSTRUCTION CHANGE / ADDENDUM			
CHANGE	DATE	AFFECTED OR ADDED SHEET NUMBERS	APPROVAL NO.

WARNING
0 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

CITY OF SAN DIEGO PUBLIC WORKS PROJECT

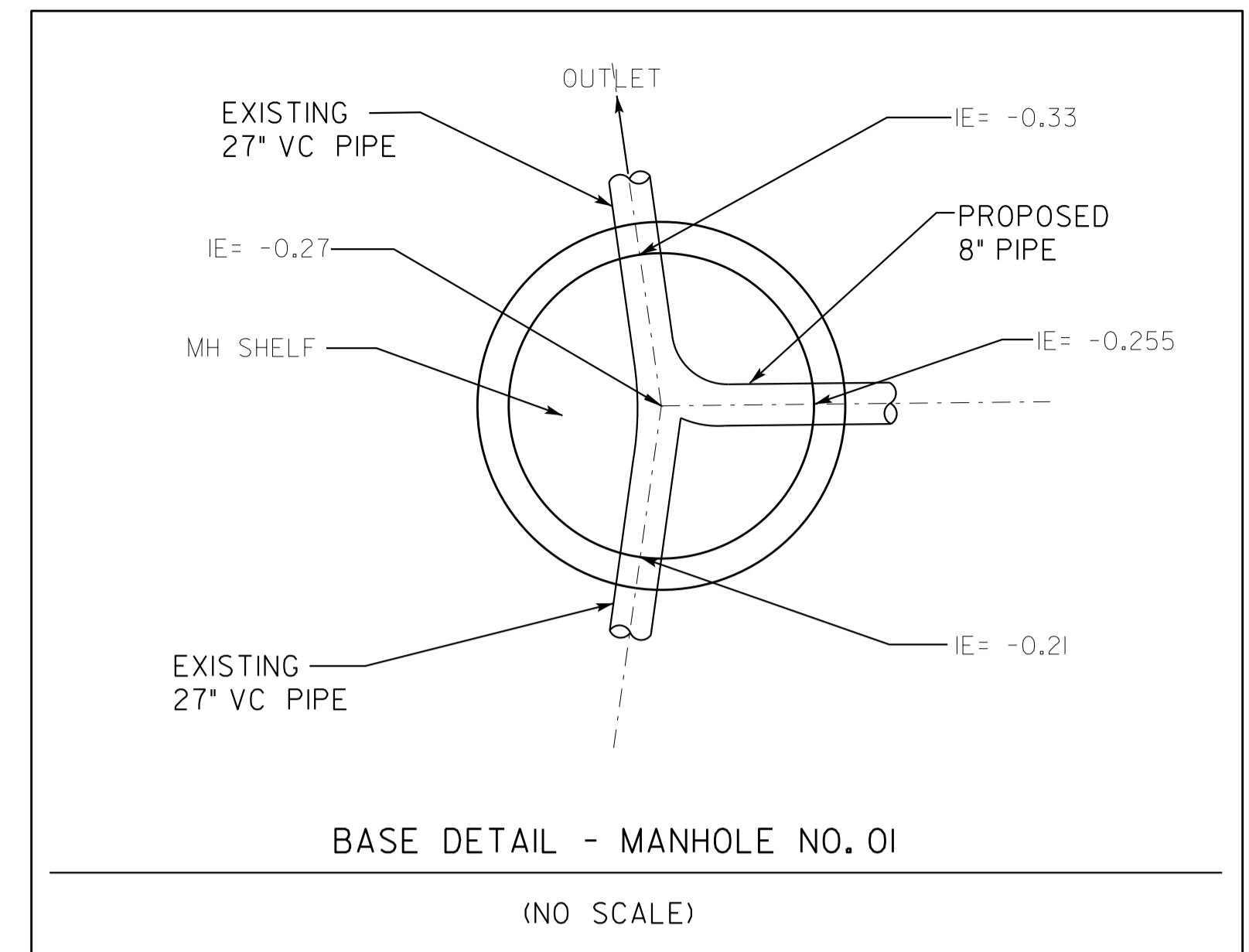
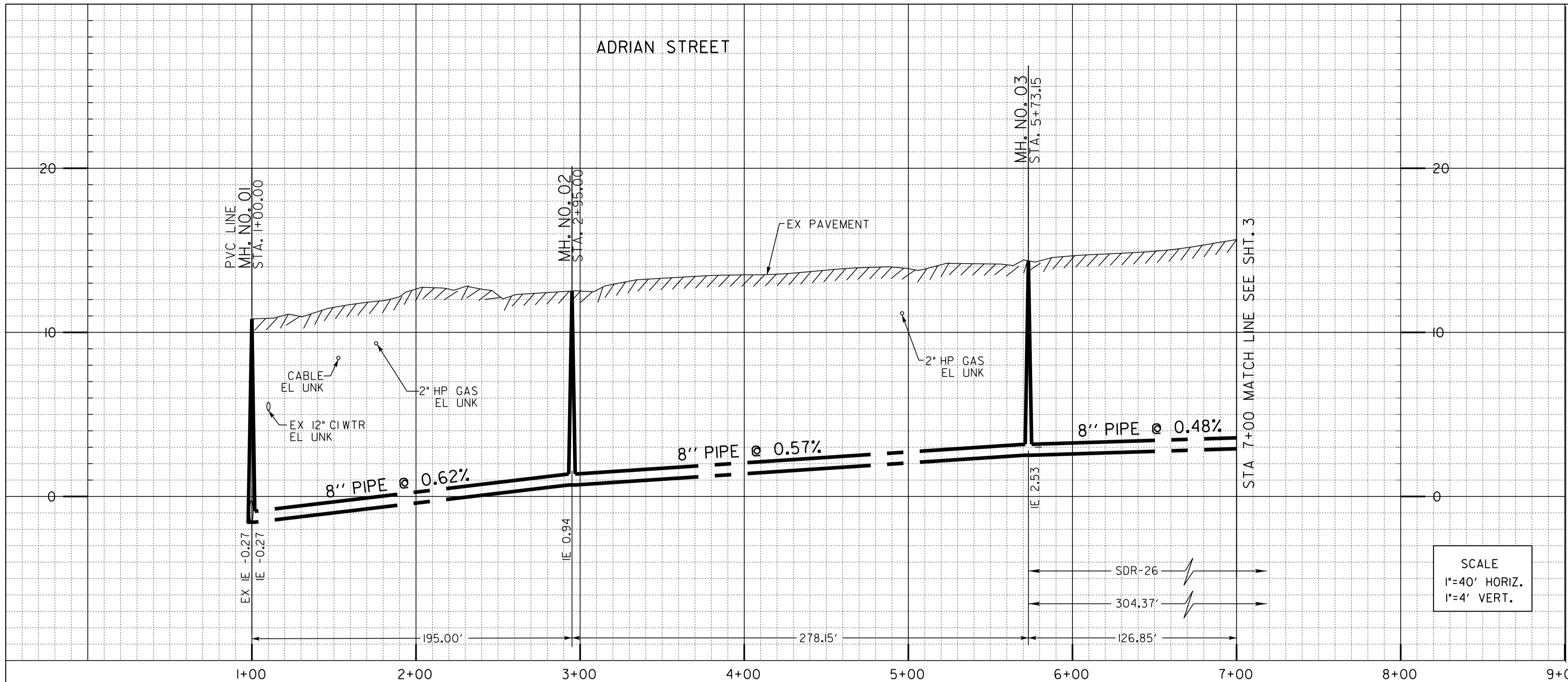


AS-BUILT INFORMATION	
MATERIALS	MANUFACTURER
PIPE CL 305 (WATER)	-
PIPE CL 235 (WATER)	-
PIPE SDR 35 (SEWER)	-
PIPE SDR-26	-
FIRE HYDRANTS	-
SEWER MANHOLES	-
REHABILITATE SEWER MANHOLES	-
REHABILITATE SEWER MAIN	-



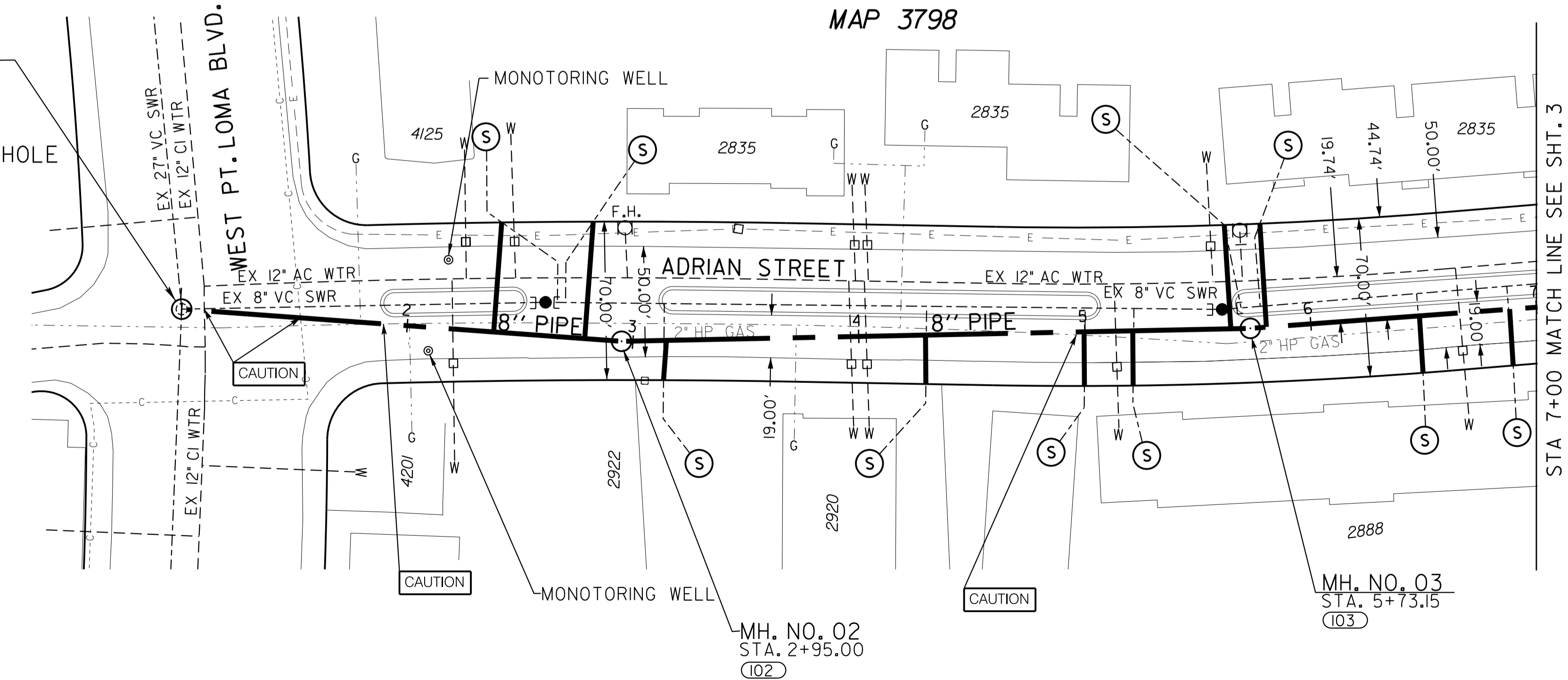
CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS - ENGINEERING AND CAPITAL PROJECTS SHEET 1 OF 44 SHEETS					WATER WBS B-00074	SEWER WBS B-00365
APPROVED	DATE	DATE	DATE	FILMED	SUBMITTED BY	
<i>Luis Schar</i>	12-21-12				LUIS SCHAAR PROJECT MANAGER	
DESCRIPTION	BY	APPROVED	DATE	FILMED	PROJECT ENGINEER	
ORIGINAL	ED/MN				MAHAR NAVIZI PROJECT ENGINEER	
						SEE SHEETS
						CCS27 COORDINATE
						SEE SHEETS
						CCS88 COORDINATE
CONTRACTOR				DATE STARTED	35372-01-D	
INSPECTOR				DATE COMPLETED		

COVER SHEET



SCALE
1"=40' HORIZ.
1"=4' VERT.

PVC LINE
MH. NO. 01
STA. 1+00.00
5X3 MH
SEE BASE
DETAIL MANHOLE



ESTIMATED PALEONTOLOGICAL MONITORING LIMITS

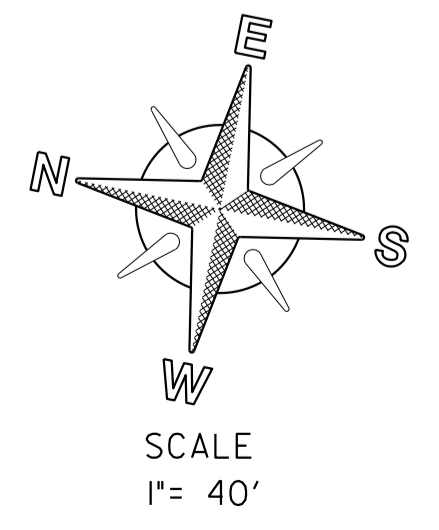
BEGINNING STATION	ENDING STATION	LENGTH (LF)
1+00.00	7+00.00	600.00'

NOTE: ACTUAL LIMITS SHALL BE DETERMINED BY THE PI/MONITOR(S) PRIOR TO CONSTRUCTION AND SHALL BE CONSISTENT WITH THE MITIGATION AND MONITORING REPORTING PROGRAM (MMRP) FOR THE PROJECT.

REFERENCE:
WATER: 5109-D
SEWER: 5109-D
STORM DRAIN: N/A
GAS: 7-768A
ELECTRIC: 214-1698
CABLE TV: +e0202od
TELEPHONE: 1102-7854
IMPROVEMENTS: 5109-B
100' SCALE/FIELD BOOK: 238-1695/CI25
THOMAS BROS.: 1268-A5

RETIREMENTS:
8" - VC - 600' - 1957
MH: 4X3, 3, 1957
4" LATERAL - 10 - (MATERIAL) - 1957

NOTES:
PRIOR TO INSTALLATION OF PROPOSED MAIN EXISTING LATERALS ON THE EAST SIDE OF ADRIAN ST. ARE TO BE LOCATED AT PROPERTY LINE, RE TO BE NOTIFIED OF ANY POTENTIAL CONFLICT WITH EXISTING MONITORING WELLS.



SEWER AND WATER GROUP 758
ADRIAN STREET.
WEST PT. LOMA BLVD. TO STA. 7+00.00

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS DEPARTMENT
SHEET 2 OF 44 SHEETS

APPROVED FOR CITY ENGINEER	DATE	12-21-12
FOR CITY ENGINEER	DATE	12-21-12

SUBMITTED BY: **LUIS SCHAAR**, ASSOCIATE ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	ED/MN			

CHECKED BY: **MAHYAR NAVIZI**, PROJECT ENGINEER

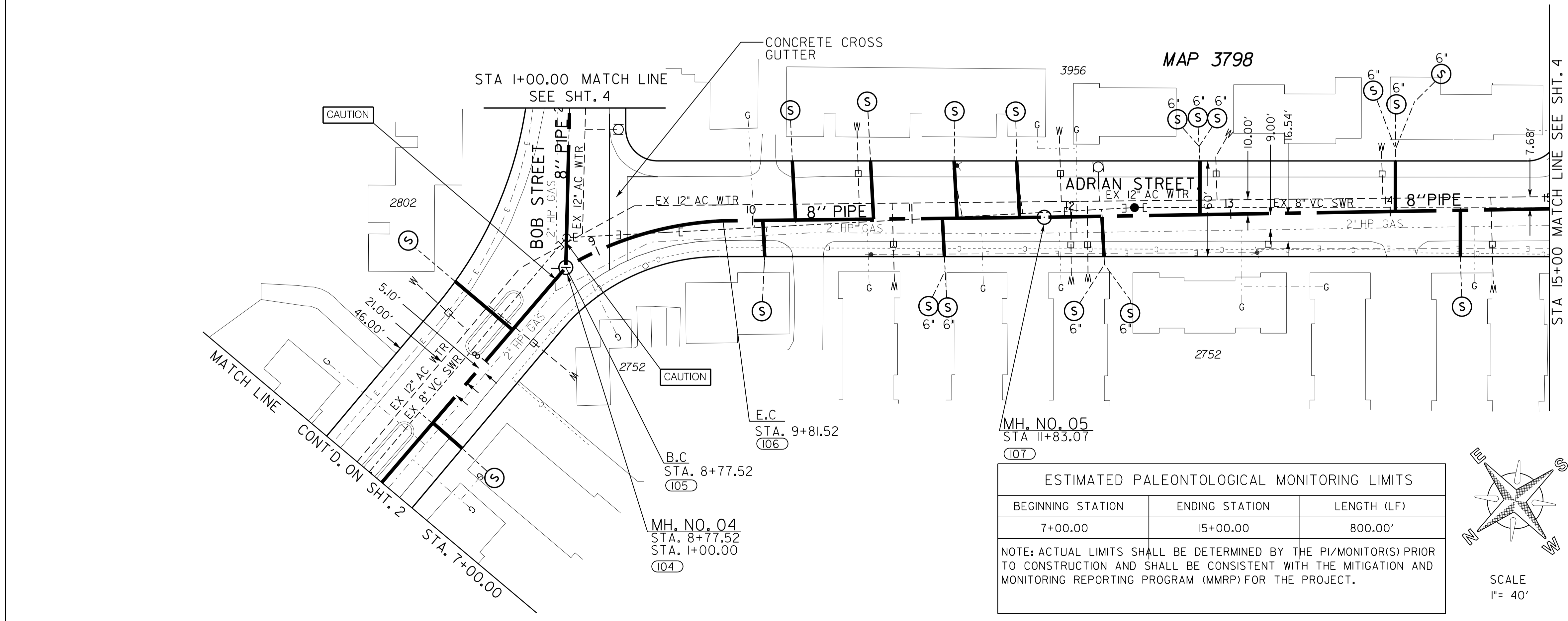
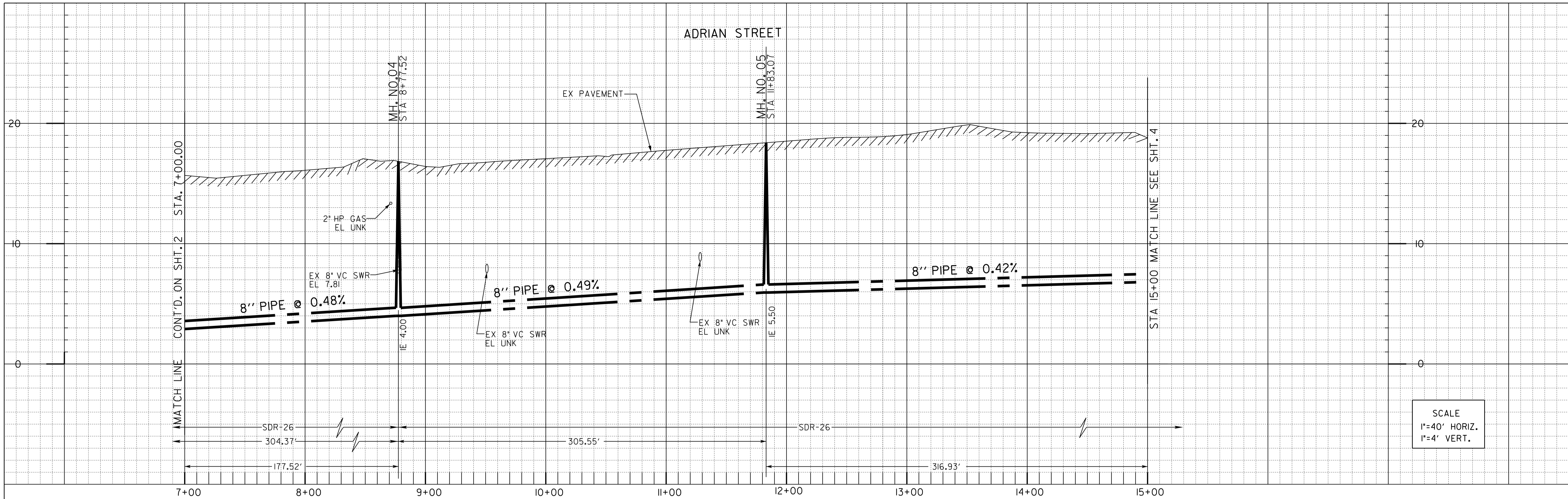
210-1695
CCS27 COORDINATE
6256407-1850444
CCS83 COORDINATE

CONTRACTOR: _____ DATE STARTED: _____
INSPECTOR: _____ DATE COMPLETED: _____

35372-02-D

C-1

ADRIAN STREET



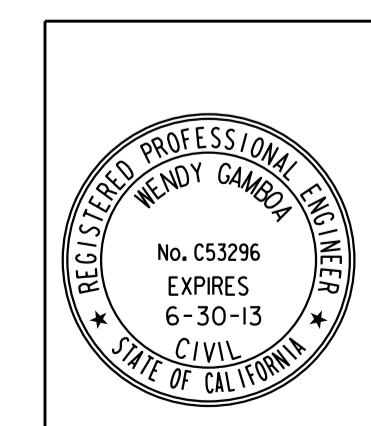
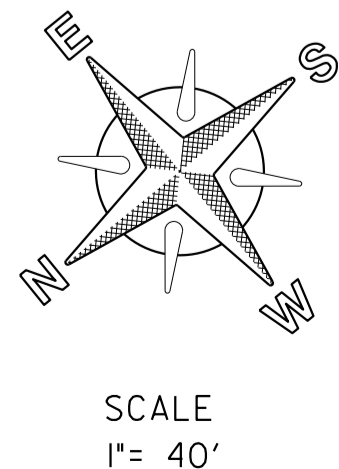
REFERENCE:
 WATER: 5109-D
 SEWER: 5109-D
 STORM DRAIN: N/A
 GAS: 7-765A
 ELECTRIC: 214-1698
 CABLE TV: 1e0202cb
 TELEPHONE: 1102-7854
 IMPROVEMENTS: 5109-B
 100' SCALE/FIELD BOOK: 238-1695/C12S
 THOMAS BROS.: 1268-A5

RETIREMENTS:
 8" - VC - 800' - 1957
 MH: 4X3, 2, 1957
 4" LATERAL - 8 - VC - 1957
 6" LATERAL - 4- VC - 1957

ESTIMATED PALEONTOLOGICAL MONITORING LIMITS

BEGINNING STATION	ENDING STATION	LENGTH (LF)
7+00.00	15+00.00	800.00'

NOTE: ACTUAL LIMITS SHALL BE DETERMINED BY THE PI/MONITOR(S) PRIOR TO CONSTRUCTION AND SHALL BE CONSISTENT WITH THE MITIGATION AND MONITORING REPORTING PROGRAM (MMRP) FOR THE PROJECT.



SEWER AND WATER GROUP 758
ADRIAN STREET
 STA. 7+00.00 TO STA. 15+00.00

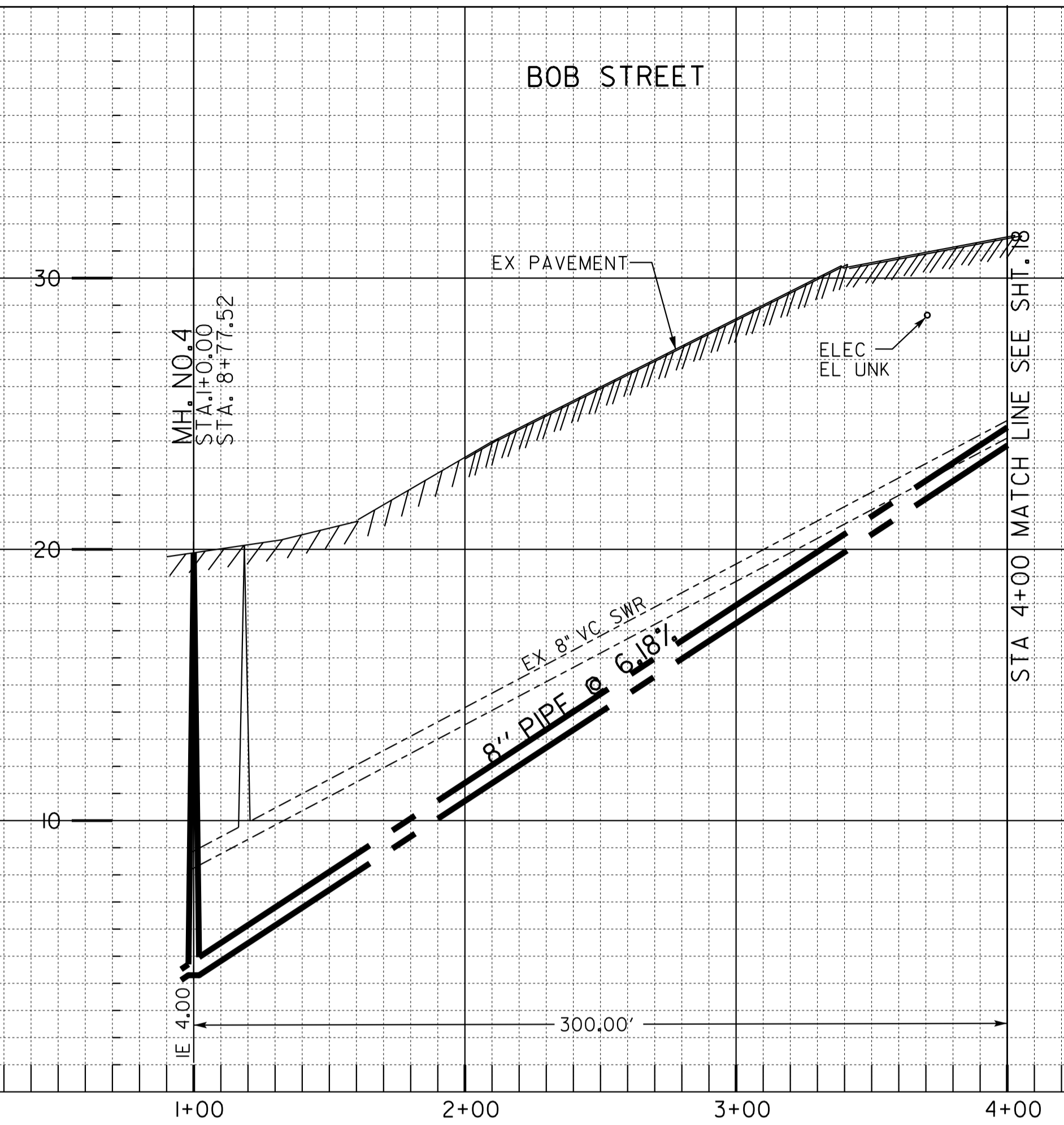
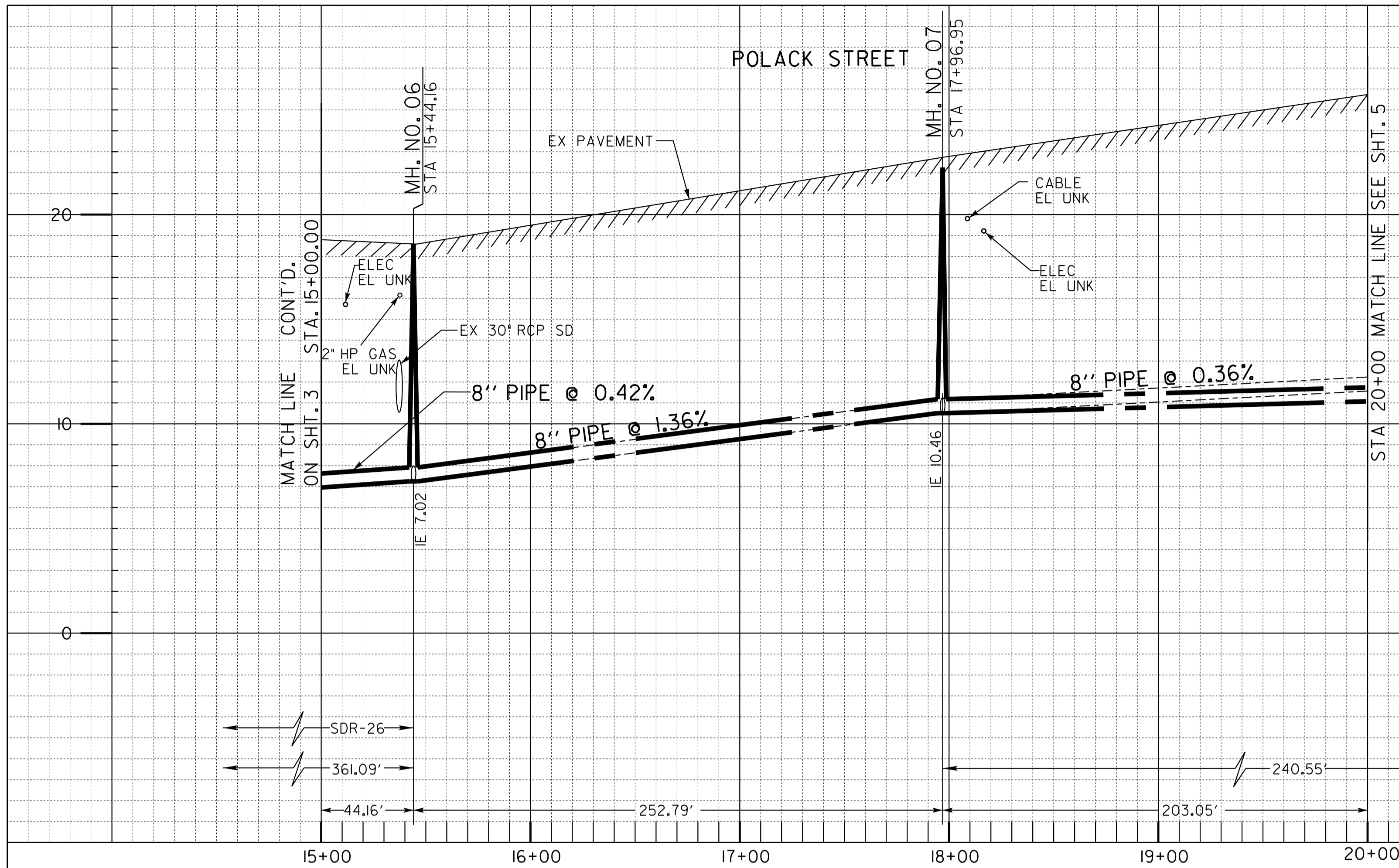
CITY OF SAN DIEGO, CALIFORNIA
 ENGINEERING AND CAPITAL PROJECTS DEPARTMENT
 SHEET 3 OF 44 SHEETS

APPROVED FOR CITY ENGINEER	DATE	12-21-12	PROJECT ENGINEER	MAHYAR NAVIZI
PROJECT ENGINEER	DATE		ASSOCIATE ENGINEER	LUIS SCHAAR
DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	ED/MN			
CONTRACTOR				DATE STARTED
INSPECTOR				DATE COMPLETED

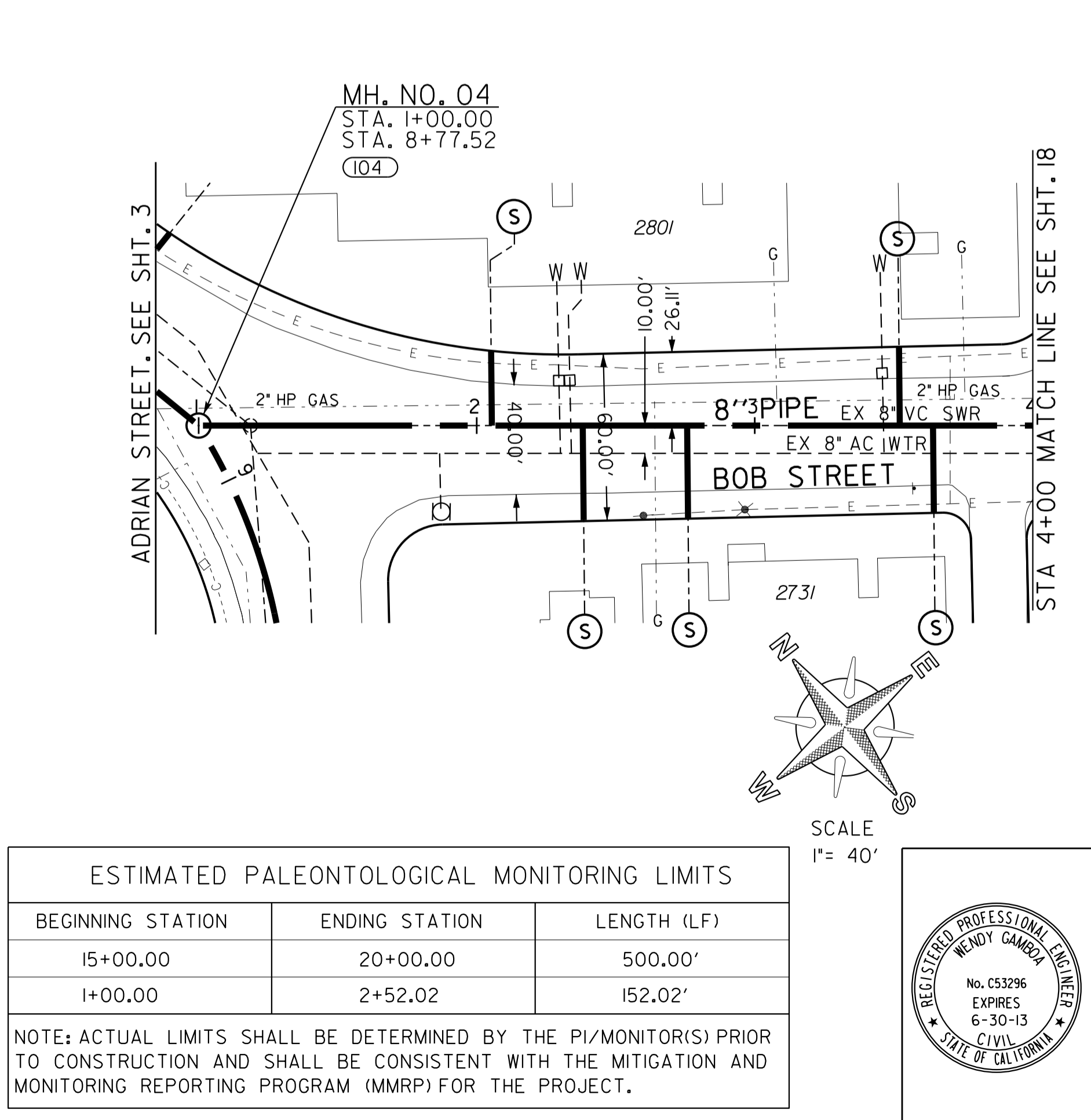
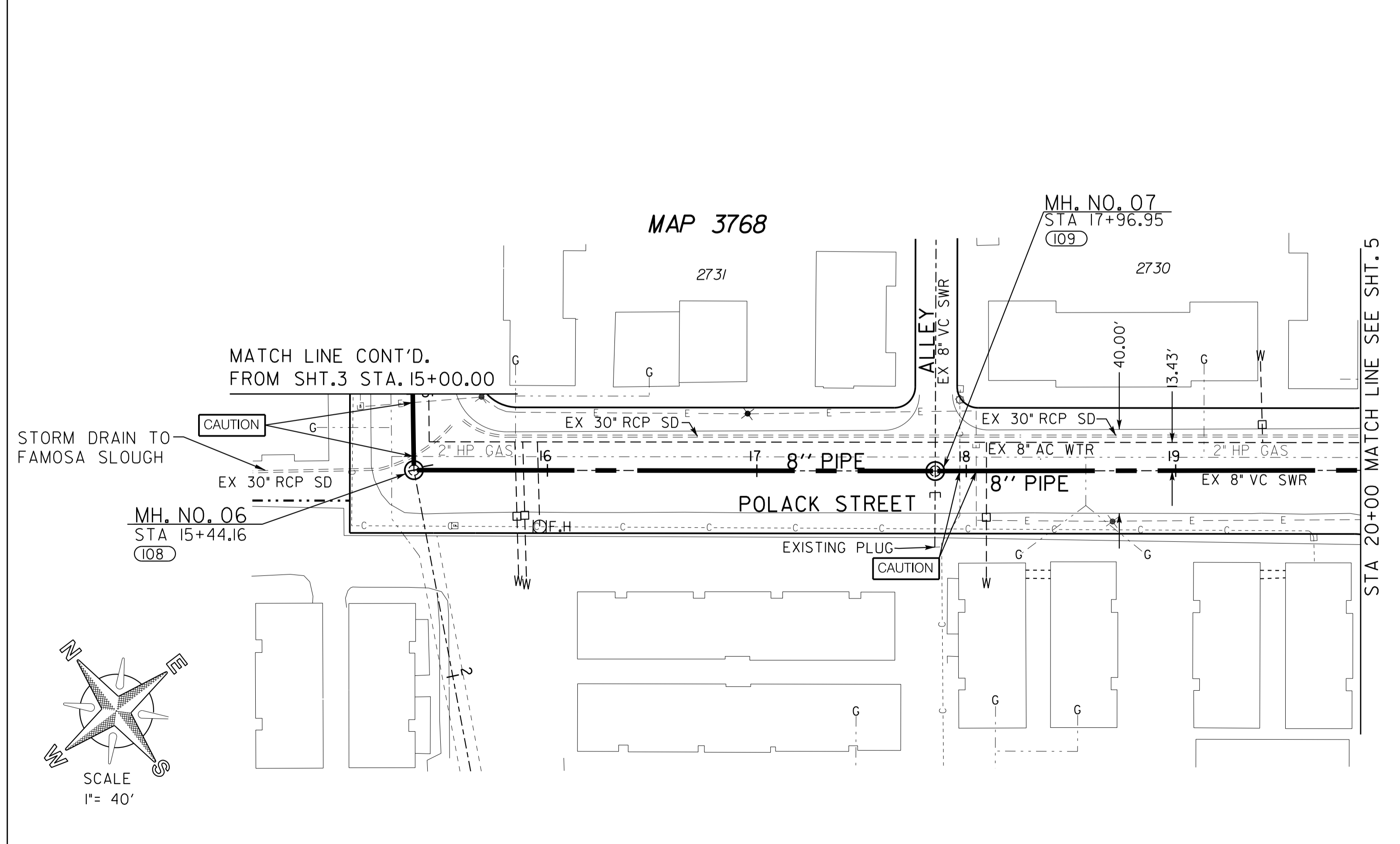
SEWER #B5 B-00365
 210-1695
 6256407-1850444
 35372-03-D

C-2

ADRIAN STREET



SCALE
1"=40' HORIZ.
1"=4' VERT.



REFERENCE:
WATER: 5228-D
SEWER: 5228-D
STORM DRAIN: 5229-D
GAS: 7-23/7-22
ELECTRIC: 214-1698
CABLE TV: #e0202cb
TELEPHONE: 1102-7854
IMPROVEMENTS: 5227-D/5106-D
100' SCALE/FIELD BOOK: 238-1695/C12S
THOMAS BROS.: I268-C5/I268-C6

RETIREMENTS:
8" - VC - 800.00' - 1957
MH: 4X3, 2, 1957
4" LATERAL - 5 - VC - 1957

ESTIMATED PALEONTOLOGICAL MONITORING LIMITS		
BEGINNING STATION	ENDING STATION	LENGTH (LF)
15+00.00	20+00.00	500.00'
1+00.00	2+52.02	152.02'

NOTE: ACTUAL LIMITS SHALL BE DETERMINED BY THE PI/MONITOR(S) PRIOR TO CONSTRUCTION AND SHALL BE CONSISTENT WITH THE MITIGATION AND MONITORING REPORTING PROGRAM (MMRP) FOR THE PROJECT.

SEWER AND WATER GROUP 758
POLACK STREET AND BOB STREET
STA. 15+00.00 TO STA. 20+00.00
ADRIAN ST. TO BARNARD ST.

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS DEPARTMENT
SHEET 4 OF 44 SHEETS

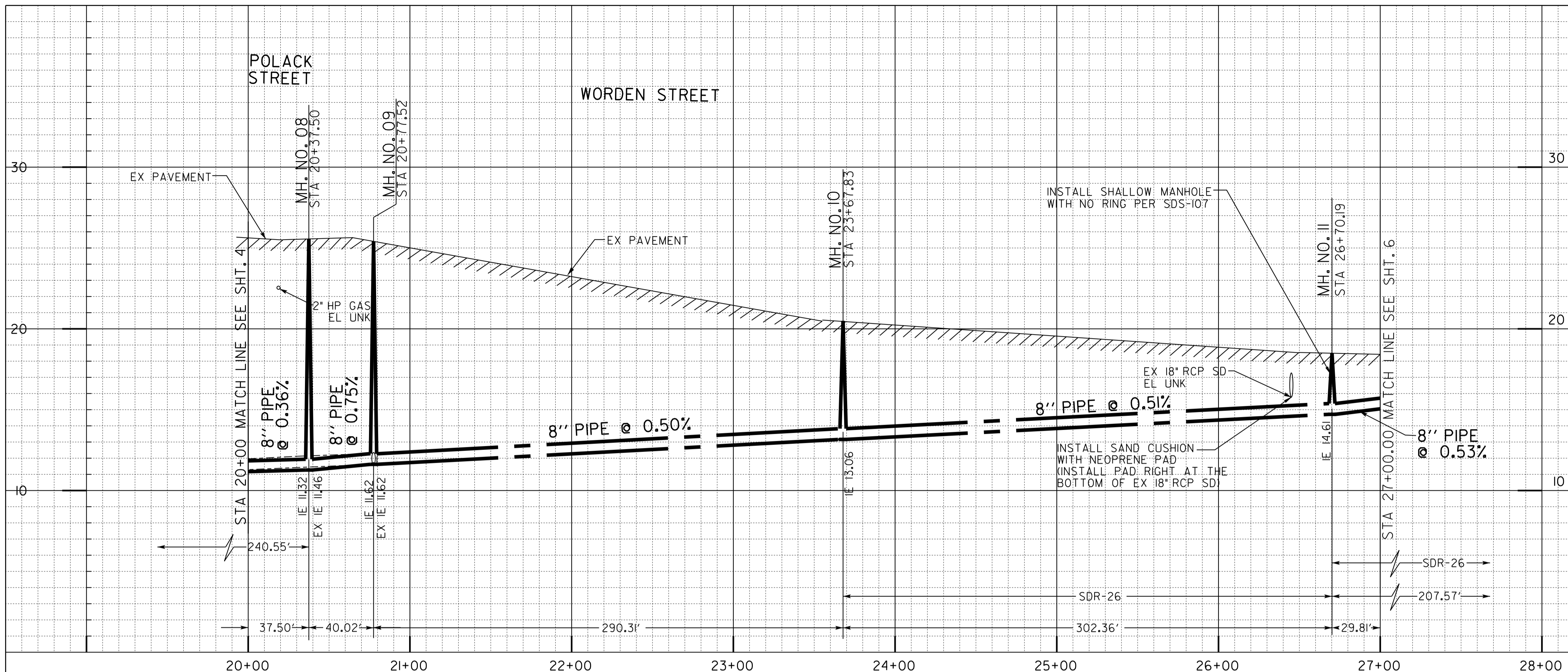
APPROVED FOR CITY ENGINEER	DATE	12-21-12	FOR CITY ENGINEER	DATE	12-21-12
DESCRIPTION	BY	APPROVED	DATE	FILMED	
ORIGINAL	ED/MN				

CONTRACTOR: _____ DATE STARTED: _____
INSPECTOR: _____ DATE COMPLETED: _____

SEWER WBS: B-00365
SUBMITTED BY: LUIS SCHAAR, ASSOCIATE ENGINEER
CHECKED BY: MAHYAR NAVIZI, PROJECT ENGINEER
210-1695
CCS27 COORDINATE: 6256407-1850444
CCS83 COORDINATE: 35372-04-D

POLACK STREET AND BOB STREET

C-3



SCALE
1"=40' HORIZ.
1"=4' VERT.

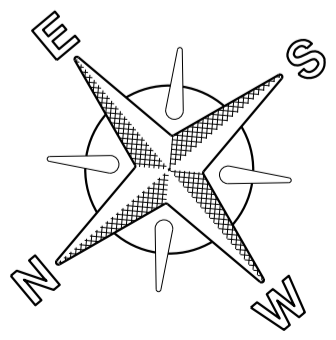
ESTIMATED PALEONTOLOGICAL MONITORING LIMITS		
BEGINNING STATION	ENDING STATION	LENGTH (LF)
20+00.00	22+45.66	245.66'

NOTE: ACTUAL LIMITS SHALL BE DETERMINED BY THE PI/MONITOR(S) PRIOR TO CONSTRUCTION AND SHALL BE CONSISTENT WITH THE MITIGATION AND MONITORING REPORTING PROGRAM (MMRP) FOR THE PROJECT.

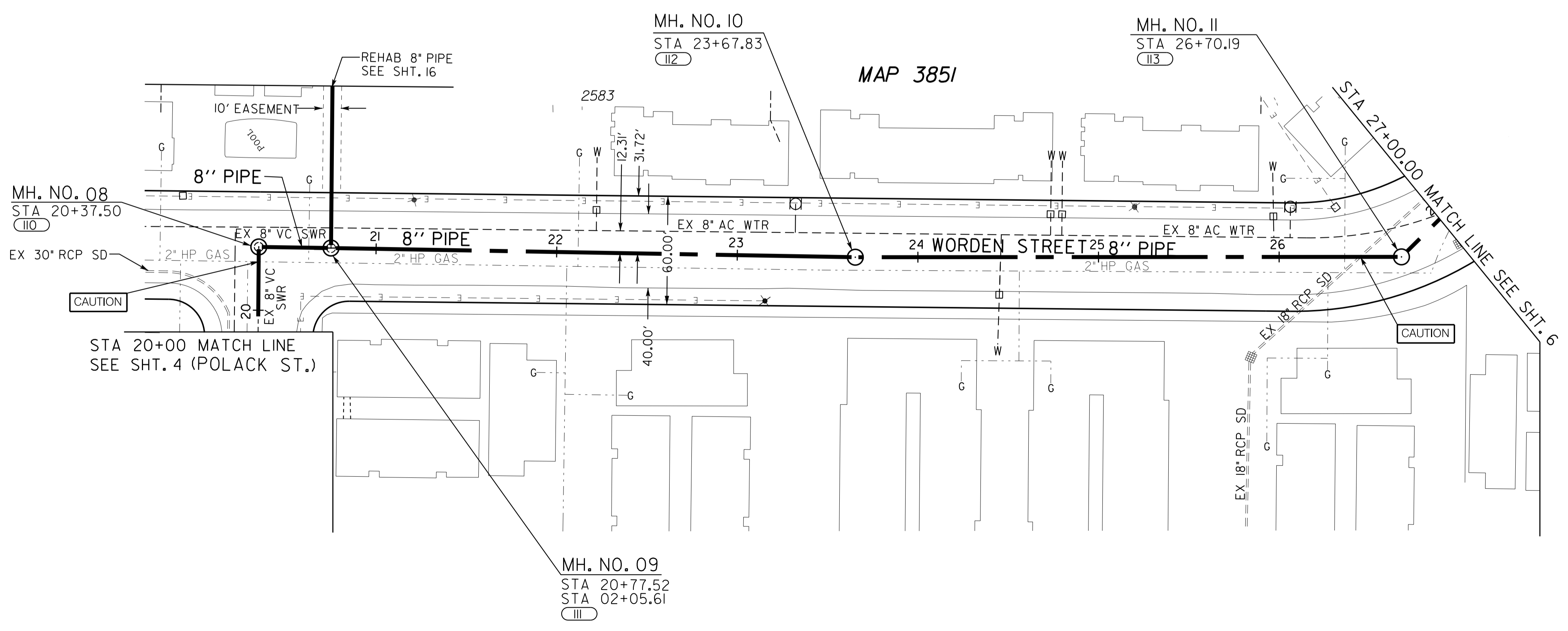
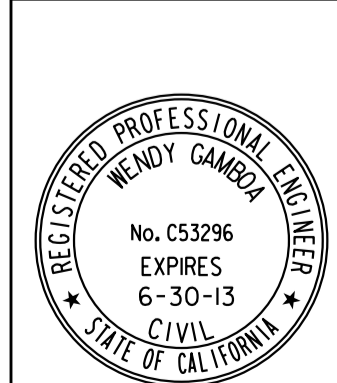
CAUTION:
USE EXTREME CAUTION WHEN WORKING
DUE TO LOW OVERHEAD UTILITY LINES

REFERENCE:
WATER: 5578-D
SEWER: 5579-D
STORM DRAIN: 13253-2-D
GAS: 7-768A
ELECTRIC: 212-1698D
CABLE TV: 102-7854
IMPROVEMENTS: 5578-D/5579-D
100' SCALE/FIELD BOOK: 210-1695/C19S
THOMAS BROS.: 1268-C6

RETIREMENTS:
8" - VC - 700' - 1957
MH: 4X3, 4, 1957
4" LATERAL - 0 - (MATERIAL) - 1957
6" LATERAL - 0 - (MATERIAL) - 1900



SCALE
1"= 40'

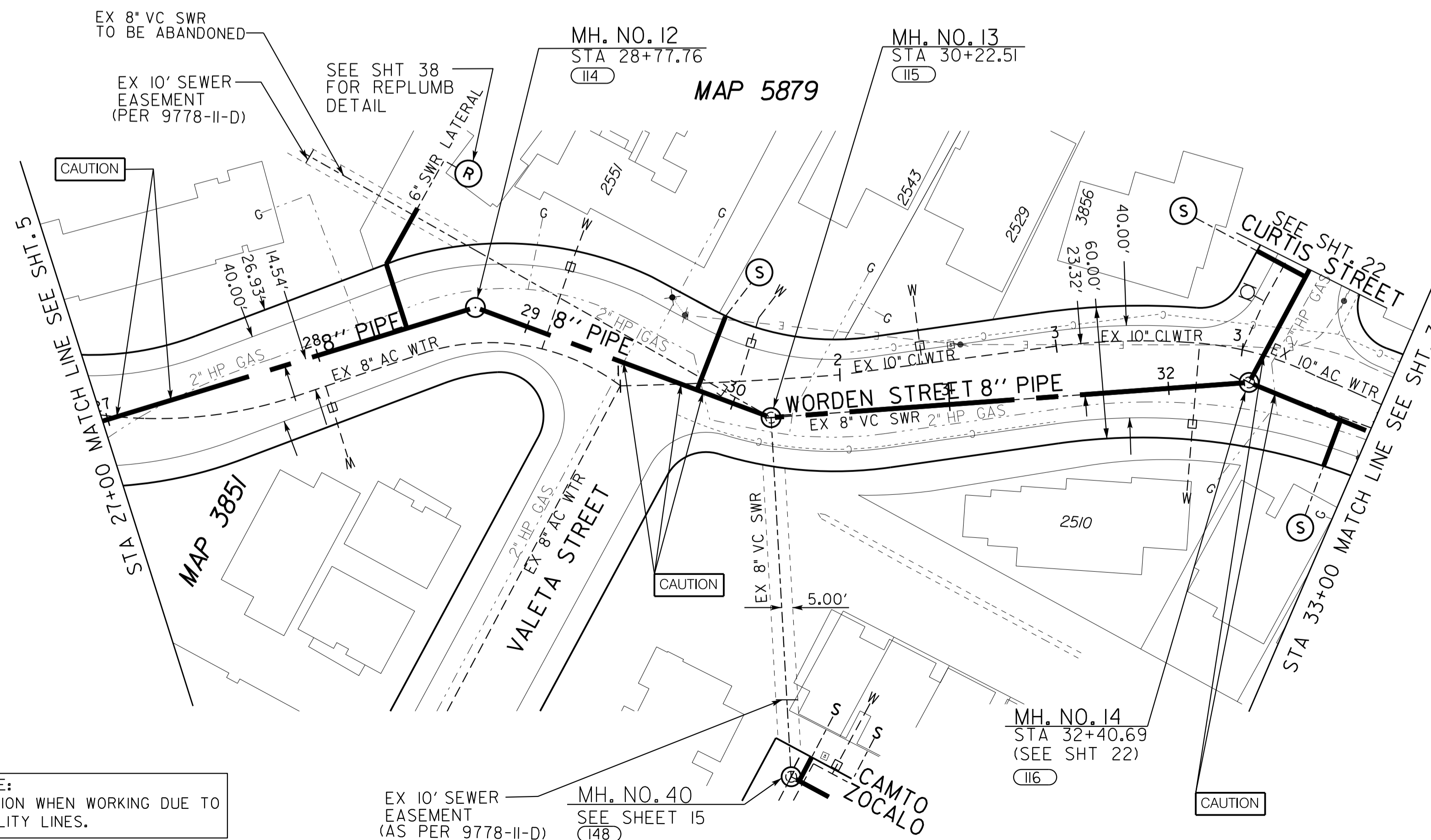
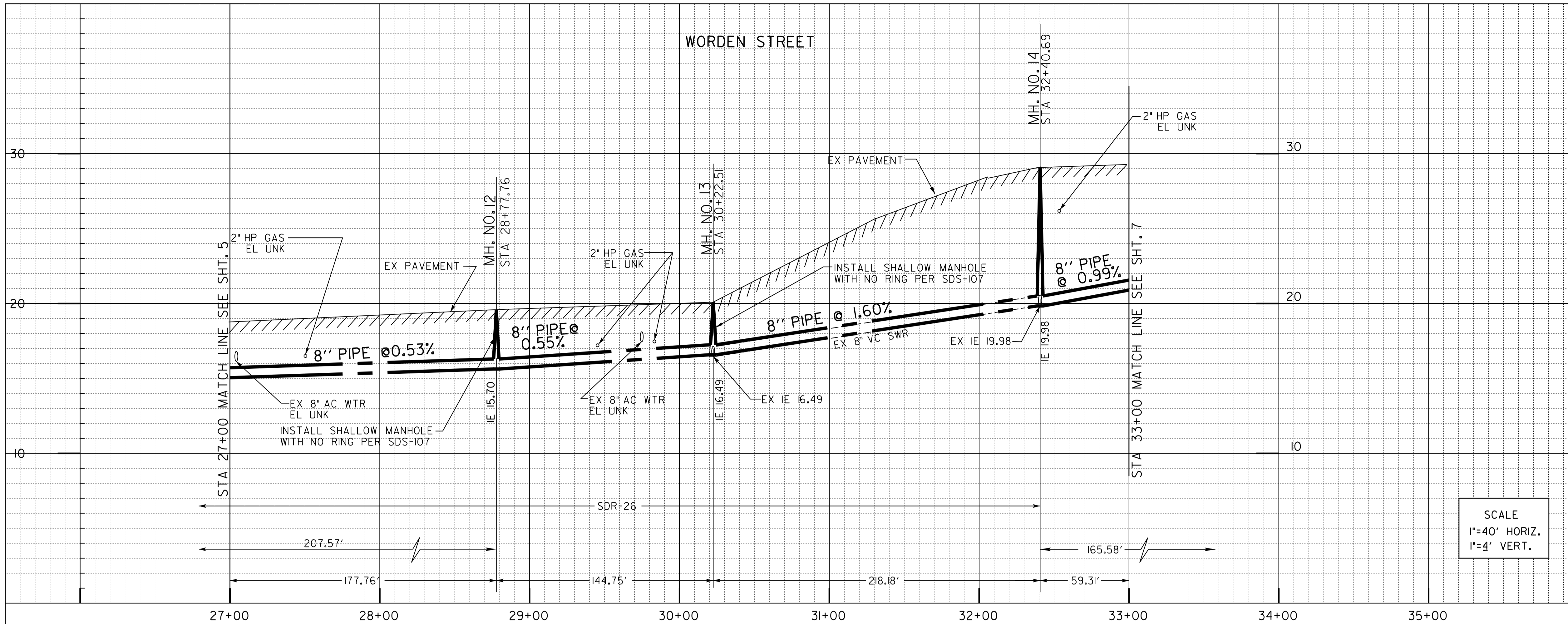


C-4

SEWER AND WATER GROUP 758
WORDEN STREET AND POLACK STREET
POLACK ST. TO STA. 27+00.00

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS DEPARTMENT
SHEET 5 OF 44 SHEET

APPROVED FOR CITY ENGINEER	DATE	12-21-12	SUBMITTED BY	LUIS SCHAAR	ASSOCIATE ENGINEER
DESCRIPTION	BY	APPROVED	DATE	FILMED	CHECKED BY
ORIGINAL	ED/MN				MAHAR NAVIZI
					PROJECT ENGINEER
					210-1695
					CCS27 COORDINATE
					6256407-1850444
					CCS83 COORDINATE
CONTRACTOR	DATE STARTED				35372-05-D
INSPECTOR	DATE COMPLETED				



NOTES:

1. CONTRACTOR TO POTHOLE AND VERIFY DEPTH OF 8" VC SEWER MAIN AT APPROX STA 28+44.76 PRIOR TO MAIN INSTALLATION ON WORDEN ST. RE SHALL BE NOTIFIED TO DETERMINE CONNECTION POINT OF REPLUMB.

PROPOSED 12" WATER INCLUDED IN THIS CONTRACT. SEE SHEET 24.

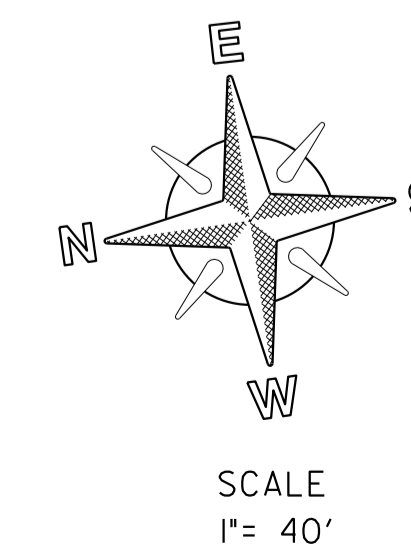
REFERENCE:

WATER: 5578-D
SEWER: 5579-D
STORM DRAIN: 9788-D
GAS: 7-768A
ELECTRIC: 212-1698D
CABLE TV: Fe0202cb
TELEPHONE: 102-7854
IMPROVEMENTS: 5578-D/5579-D
100' SCALE/FIELD BOOK: 210-1695/C19S
THOMAS BROS.: 1268-B6

RETIREMENTS:

8" - VC - 600' - 1957
MH: 4X3, 2, 1957
4" LATERAL - 3- VC - 1957

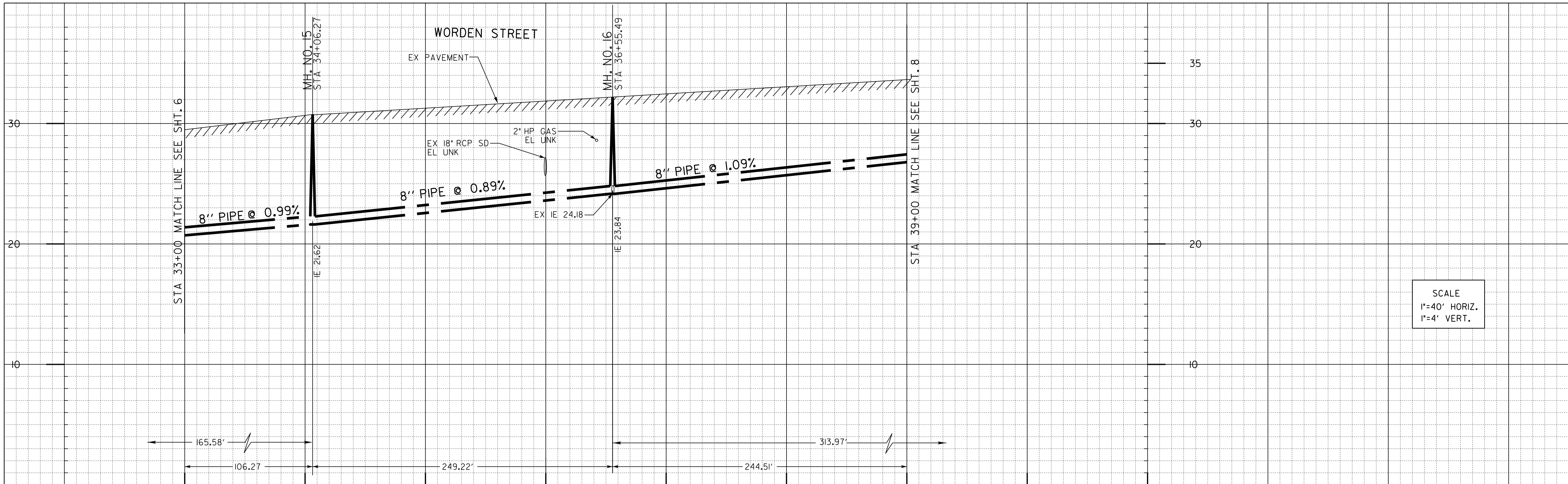
CONTRACTOR'S NOTE:
USE EXTREME CAUTION WHEN WORKING DUE TO LOW OVERHEAD UTILITY LINES.



SEWER AND WATER GROUP 758 WORDEN STREET				
STA. 27+00.00 TO STA. 33+00.00				
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 6 OF 44 SHEETS				
APPROVED FOR CITY ENGINEER	DATE		SEWER #B5 B-00365	
<i>W. J. ...</i>	12-21-12		SUBMITTED BY: LUIS SCHAAR ASSOCIATE ENGINEER	
DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	ED/MN			
				PROJECT ENGINEER: MAHYAR NAVIZI
				182-1749
				CCS27 COORDINATE
				6310407-1822444
				CCS83 COORDINATE
CONTRACTOR	DATE STARTED		35372-06-D	
INSPECTOR	DATE COMPLETED			

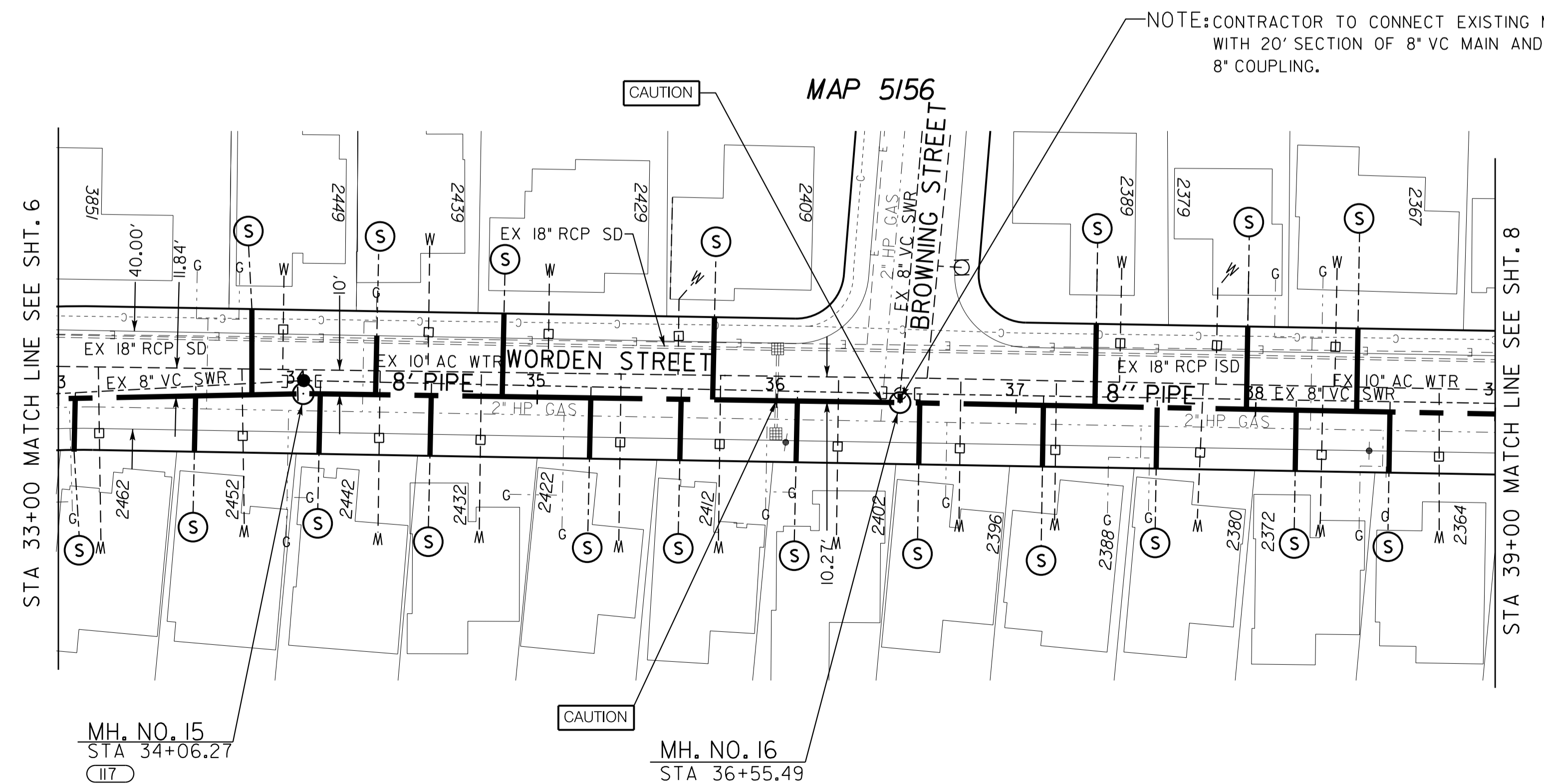
WORDEN STREET

C-5



SCALE
1"=40' HORIZ.
1"=4' VERT.

33+00 34+00 35+00 36+00 37+00 38+00 39+00 40+00 41+00

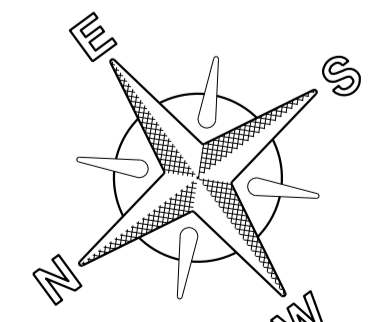


NOTE: CONTRACTOR TO CONNECT EXISTING MAIN WITH 20' SECTION OF 8" VC MAIN AND 8" COUPLING.

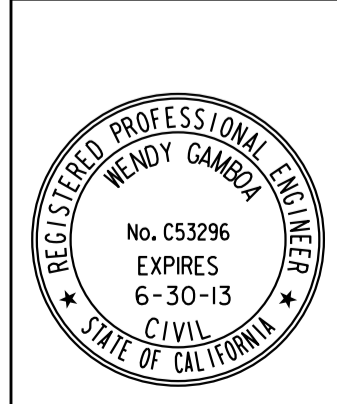
REFERENCE:
WATER: 9778-D
SEWER: 9778-D
STORM DRAIN: 9788-D
GAS: 7-829A
ELECTRIC: 210-1698D
CABLE TV: 100202cc
TELEPHONE: 1098-7854
IMPROVEMENTS: 9778-D
100' SCALE/FIELD BOOK: 210-1695/C195
THOMAS BROS.: 1268-B6

RETIREMENTS:
8" - VC - 600' - 1957
MH: 4X3, 2, 1957
4" LATERAL - 19 - VC - 1957

CONTRACTOR'S NOTE:
USE EXTREME CAUTION WHEN WORKING DUE TO LOW OVERHEAD UTILITY LINES.



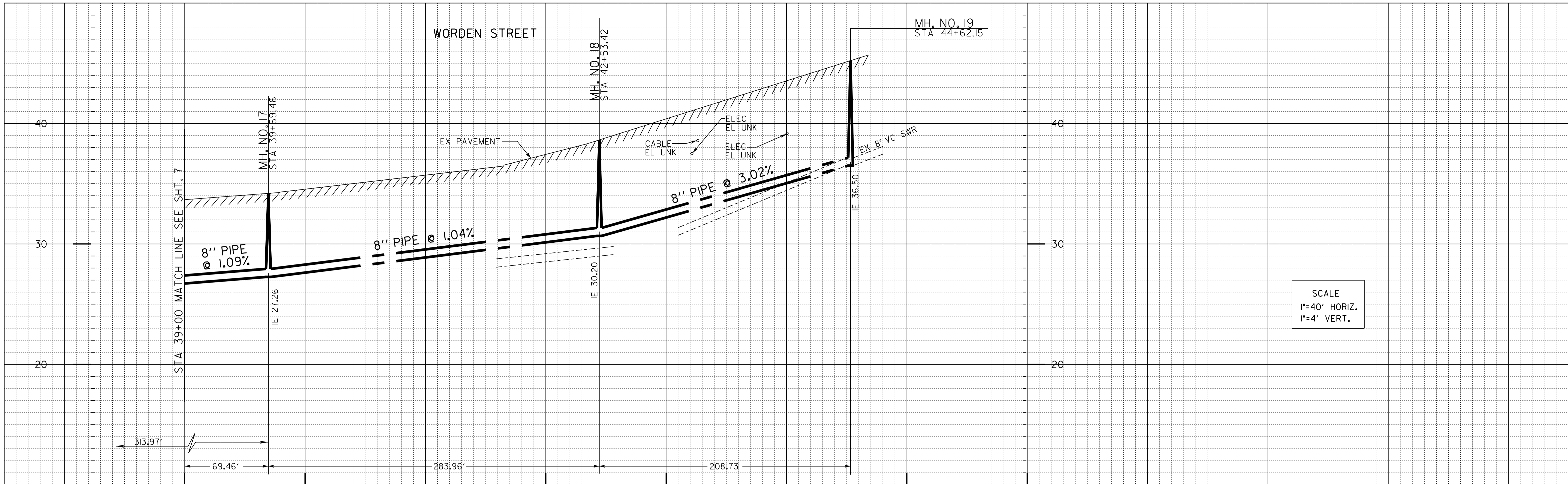
SCALE
1"= 40'



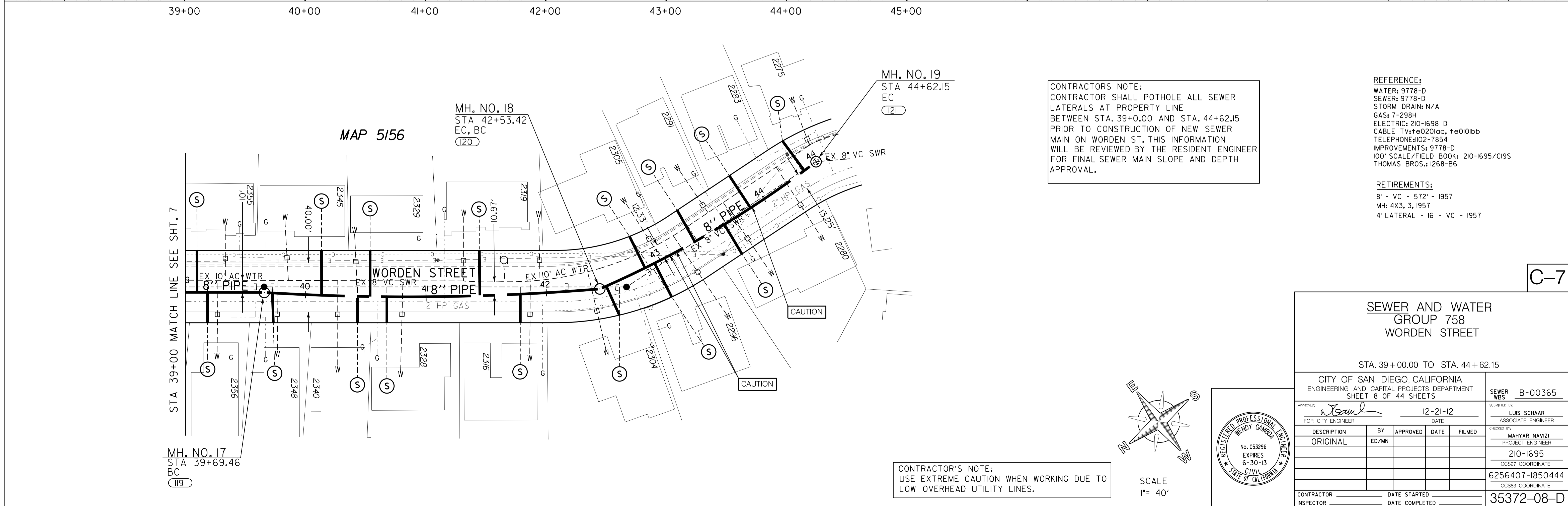
SEWER AND WATER GROUP 758 WORDEN STREET			
STA. 33+00.00 TO STA. 39+00.00			
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 7 OF 44 SHEETS		SEWER WBS	B-00365
APPROVED: <i>Luis Schaar</i> FOR CITY ENGINEER	DATE 12-21-12	SUBMITTED BY: LUIS SCHAAR ASSOCIATE ENGINEER	
DESCRIPTION ORIGINAL	BY ED/MN	APPROVED	DATE FILMED
CHECKED BY: MAHYAR NAVIZI PROJECT ENGINEER		210-1695	
CCS27 COORDINATE		6256407-1850444	
CCS83 COORDINATE		35372-07-D	
CONTRACTOR	DATE STARTED	INSPECTOR	
	DATE COMPLETED		

WORDEN STREET

C-6



SCALE
1"=40' HORIZ.
1"=4' VERT.

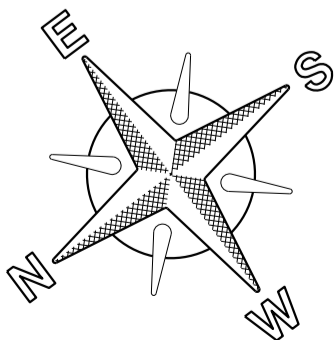


CONTRACTORS NOTE:
CONTRACTOR SHALL POTHOLE ALL SEWER LATERALS AT PROPERTY LINE BETWEEN STA. 39+0.00 AND STA. 44+62.15 PRIOR TO CONSTRUCTION OF NEW SEWER MAIN ON WORDEN ST. THIS INFORMATION WILL BE REVIEWED BY THE RESIDENT ENGINEER FOR FINAL SEWER MAIN SLOPE AND DEPTH APPROVAL.

REFERENCE:
WATER: 9778-D
SEWER: 9778-D
STORM DRAIN: N/A
GAS: 7-298H
ELECTRIC: 210-1698 D
CABLE: TV-100210cc, t0101bb
TELEPHONE: 102-7854
IMPROVEMENTS: 9778-D
100' SCALE/FIELD BOOK: 210-1695/C195
THOMAS BROS.: 1268-B6

RETIREMENTS:
8" - VC - 572' - 1957
MH: 4X3, 3, 1957
4" LATERAL - 16 - VC - 1957

CONTRACTOR'S NOTE:
USE EXTREME CAUTION WHEN WORKING DUE TO LOW OVERHEAD UTILITY LINES.



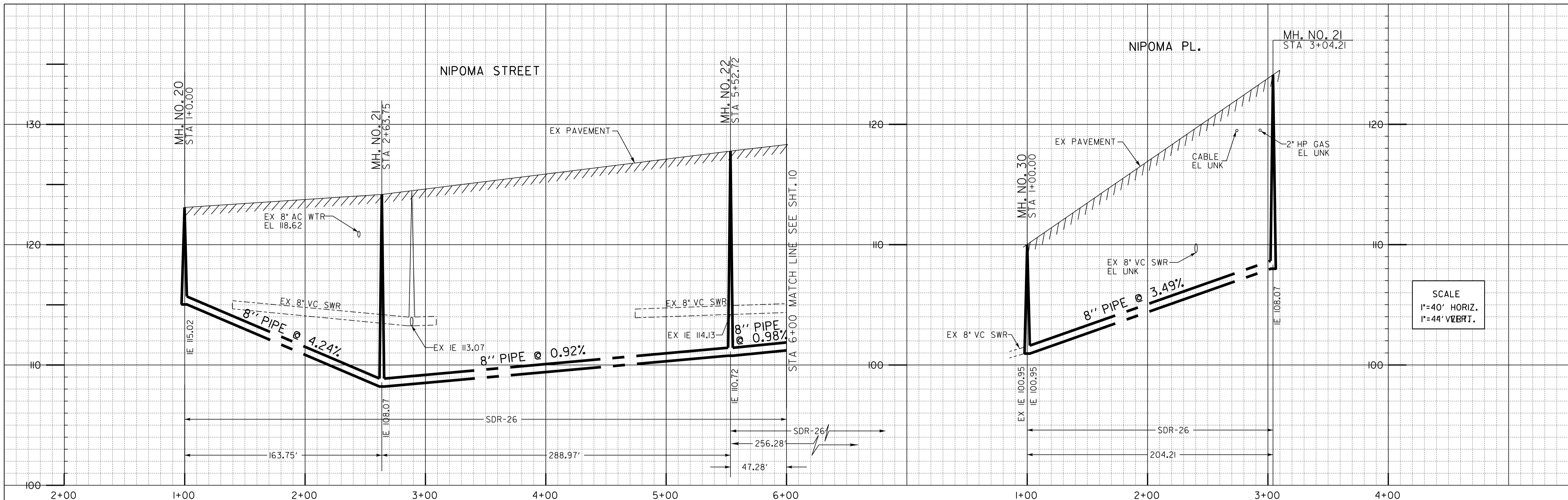
SCALE
1"= 40'



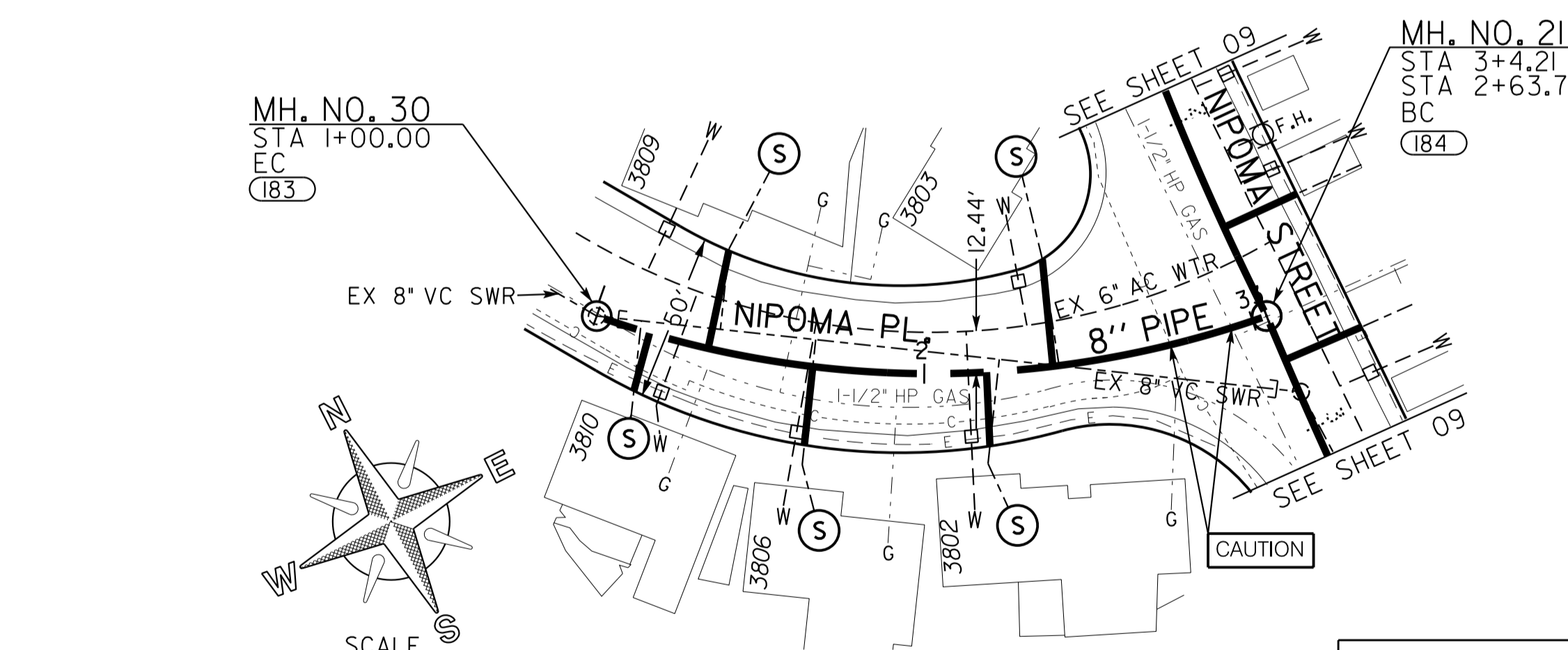
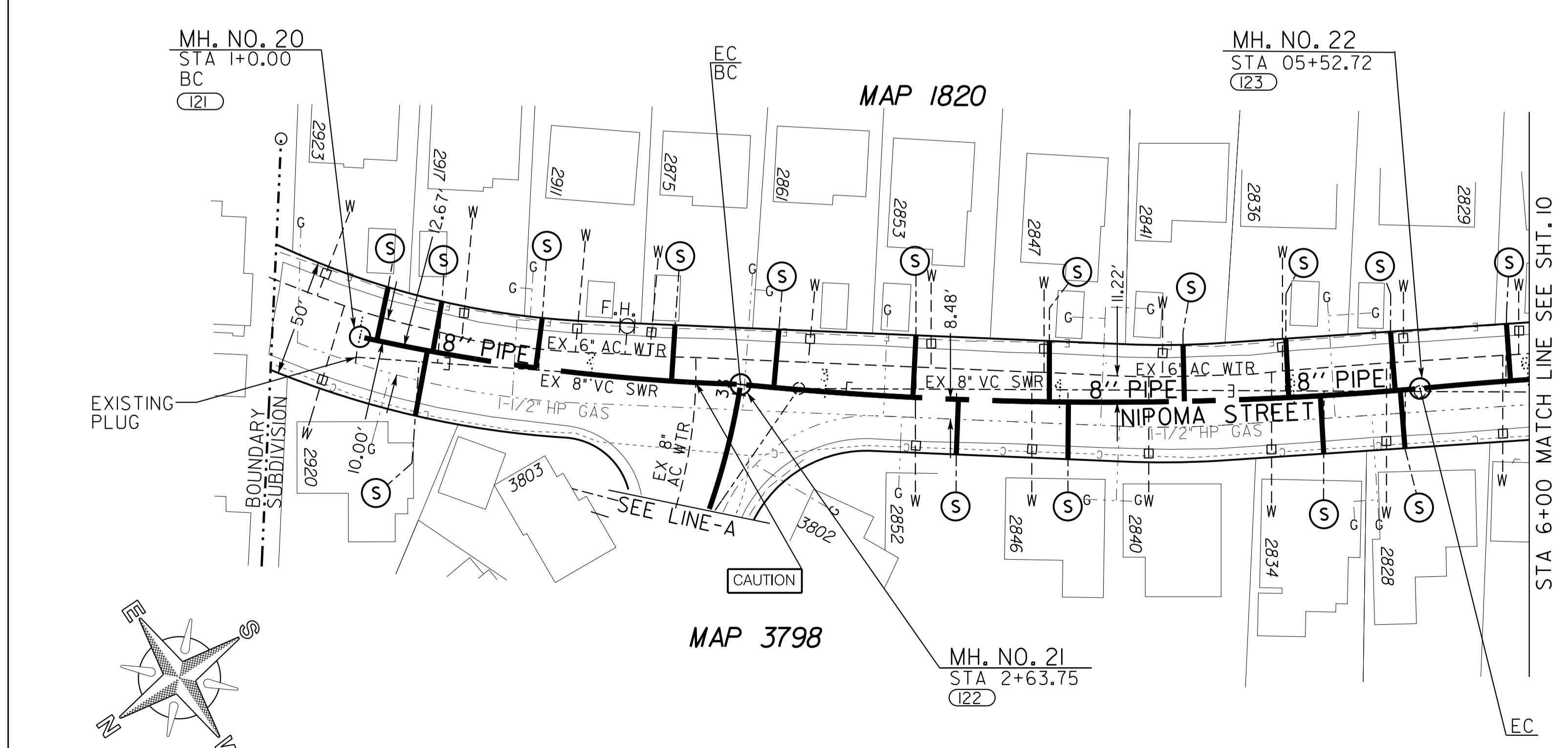
SEWER AND WATER GROUP 758			
WORDEN STREET			
STA. 39+00.00 TO STA. 44+62.15			
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 8 OF 44 SHEETS			
APPROVED FOR CITY ENGINEER	DATE	SUBMITTED BY	
<i>[Signature]</i>	12-21-12	LUIS SCHAAR ASSOCIATE ENGINEER	
DESCRIPTION	BY	APPROVED	DATE
ORIGINAL	ED/MN		
CHECKED BY			
MAHYAR NAVIZI PROJECT ENGINEER			
210-1695			
CCS27 COORDINATE			
6256407-1850444			
CCS83 COORDINATE			
CONTRACTOR	DATE STARTED	35372-08-D	
INSPECTOR	DATE COMPLETED		

C-7

WORDEN STREET



SCALE
1"=40' HORIZ.
1"=44' VERT.



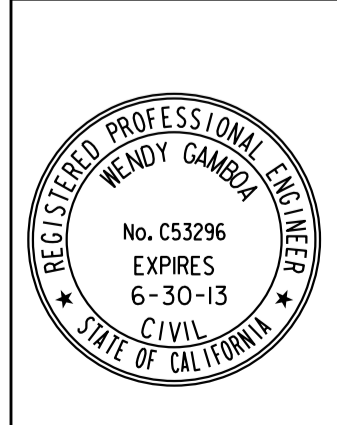
REFERENCE:
WATER: 8101-L
SEWER: 5456-L
STORM DRAIN: N/A
GAS: 7-298H-1
ELECTRIC: 210-1698 D
CABLE TV: t0404dc
TELEPHONE: 102-7854
IMPROVEMENTS: 9778-D
100' SCALE/FIELD BOOK: 210-1695/C195
THOMAS BROS.: 1268-C5

RETIREMENTS:
8" - VC - 704.21' - 1950
MH: 4X3,-4- 1950
4" LATERAL - 21- VC - 1950

CONTRACTOR'S NOTE:
USE EXTREME CAUTION WHEN WORKING DUE TO
LOW OVERHEAD UTILITY LINES.

ESTIMATED PALEONTOLOGICAL MONITORING LIMITS		
BEGINNING STATION	ENDING STATION	LENGTH (LF)
1+58.61	6+00.00	441.39'
1+43.95	3+4.21	160.25'

NOTE: ACTUAL LIMITS SHALL BE DETERMINED BY THE PI/MONITOR(S) PRIOR TO CONSTRUCTION AND SHALL BE CONSISTENT WITH THE MITIGATION AND MONITORING REPORTING PROGRAM (MMRP) FOR THE PROJECT.



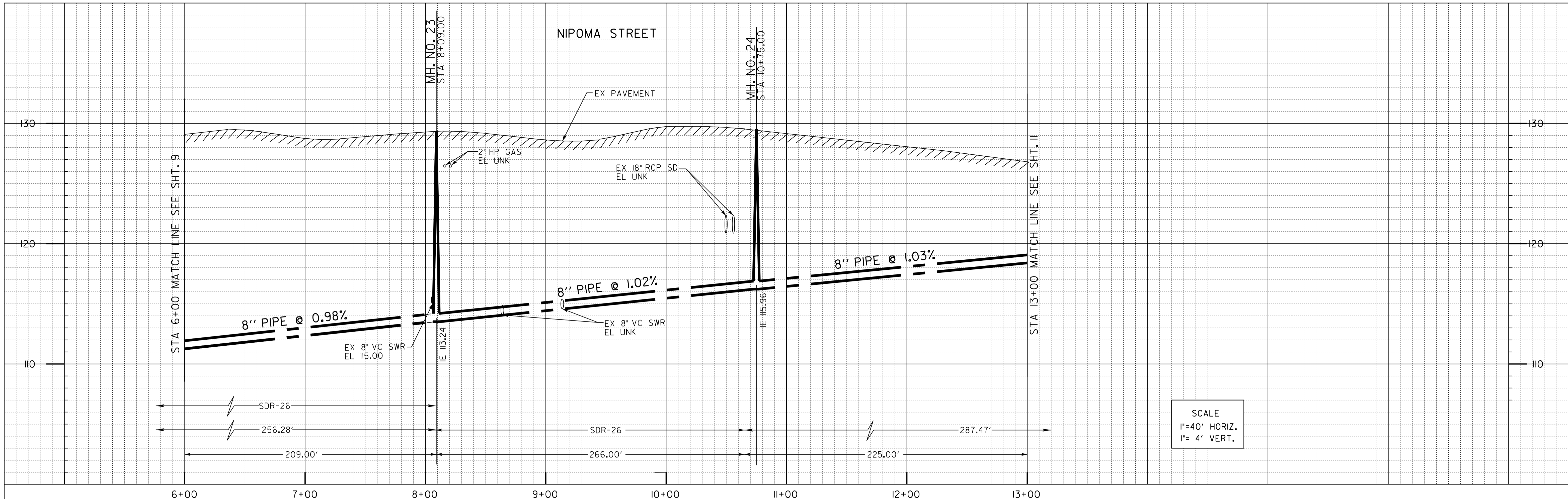
SEWER AND WATER GROUP 758
NIPOMA STREET AND NIPOMA PL.
STA 1+00.00 TO STA. 6+00.00
STA 1+00.00 TO STA. 3+4.21

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS DEPARTMENT
SHEET 9 OF 44 SHEETS

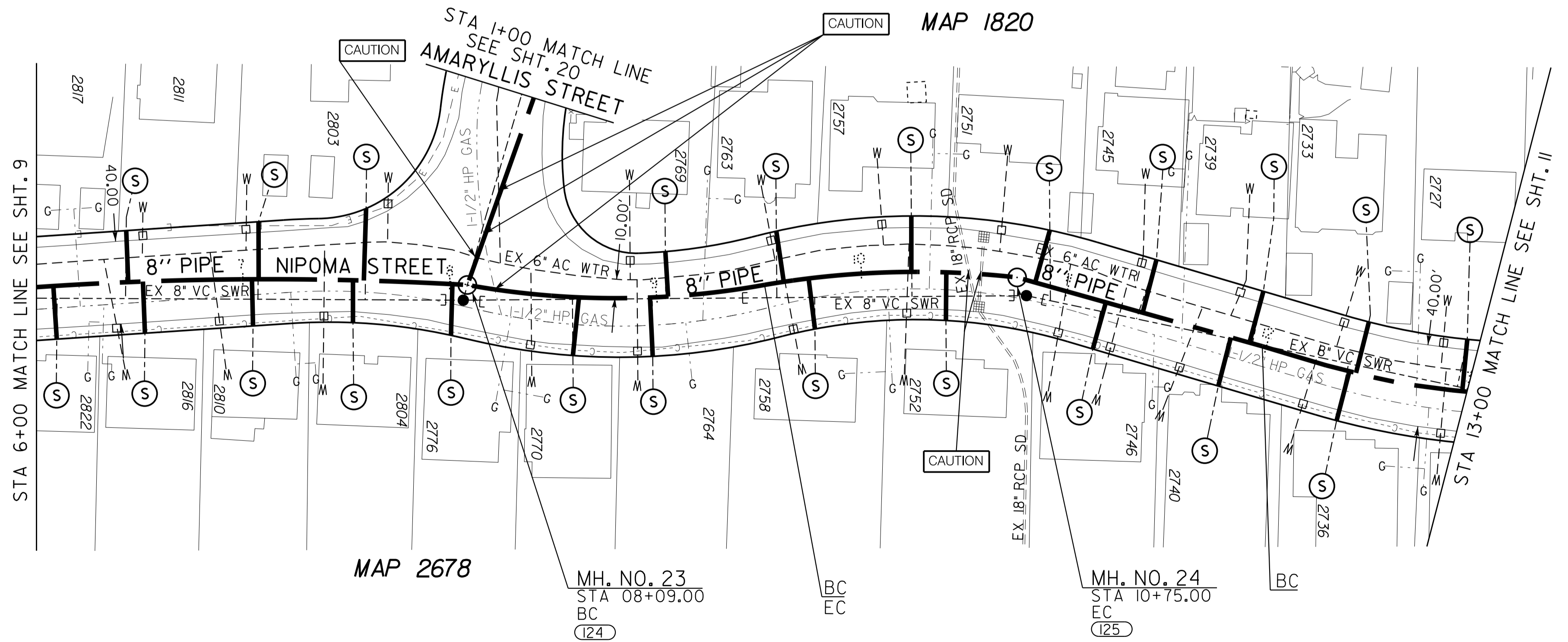
APPROVED FOR CITY ENGINEER	DATE	12-21-12	SUBMITTED BY	LUIS SCHAAR
FOR CITY ENGINEER	DATE		ASSOCIATE ENGINEER	
DESCRIPTION	BY	APPROVED	DATE	FILED
ORIGINAL	ED/MN			
CHECKED BY				MAHYAR NAVIZI
PROJECT ENGINEER				
COORDINATOR				210-1695
COORDINATOR				6256407-1850444
COORDINATOR				CCS88
CONTRACTOR	DATE STARTED	35372-09-D		
INSPECTOR	DATE COMPLETED			

NIPOMA STREET AND NIPOMA PL.

C-8



SCALE
1"=40' HORIZ.
1"=4' VERT.

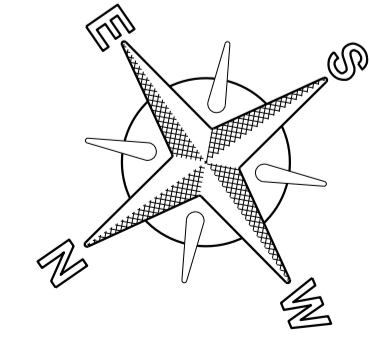


ESTIMATED PALEONTOLOGICAL MONITORING LIMITS		
BEGINNING STATION	ENDING STATION	LENGTH (LF)
6+00.00	12+26.92	626.92'

NOTE: ACTUAL LIMITS SHALL BE DETERMINED BY THE PI/MONITOR(S) PRIOR TO CONSTRUCTION AND SHALL BE CONSISTENT WITH THE MITIGATION AND MONITORING REPORTING PROGRAM (MMRP) FOR THE PROJECT.

REFERENCE:
WATER: 13678-2-L
SEWER: 8102-L
STORM DRAIN: 8104-L
GAS: 1-238H
ELECTRIC: 212-1698D
CABLE TV: +e0402bb
TELEPHONE: 1102-7854
IMPROVEMENTS: 8102-L/13678-2-L
100' SCALE/FIELD BOOK: 210-1695/C19S
THOMAS BROS.: 1268-C6

RETIREMENTS:
8" - VC - 700' - 1950
MH: 4X3, 2, 1950
4" LATERAL - 23 - VC - 1950



SCALE
1"=40'

CONTRACTOR'S NOTE:
USE EXTREME CAUTION WHEN WORKING DUE TO
LOW OVERHEAD UTILITY LINES.

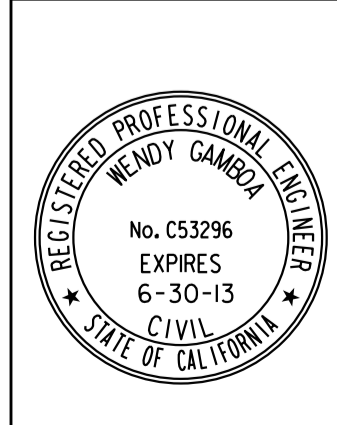
NIPOMA STREET

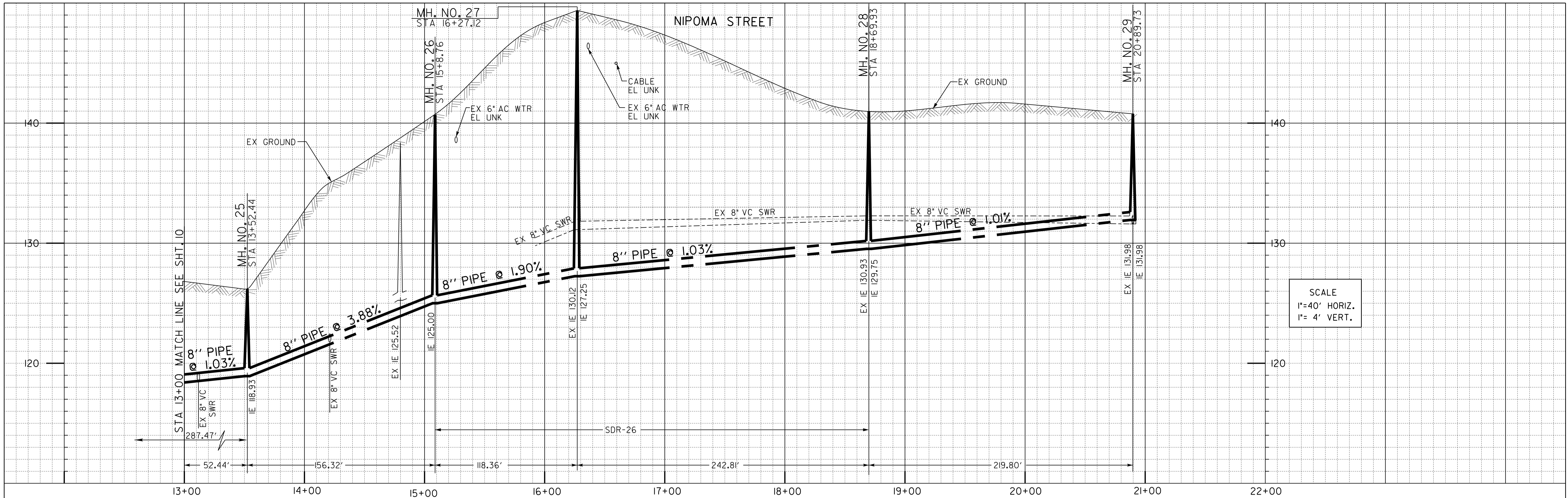
C-9

**SEWER AND WATER
GROUP 758
NIPOMA STREET/AMARYLLIS DR.**

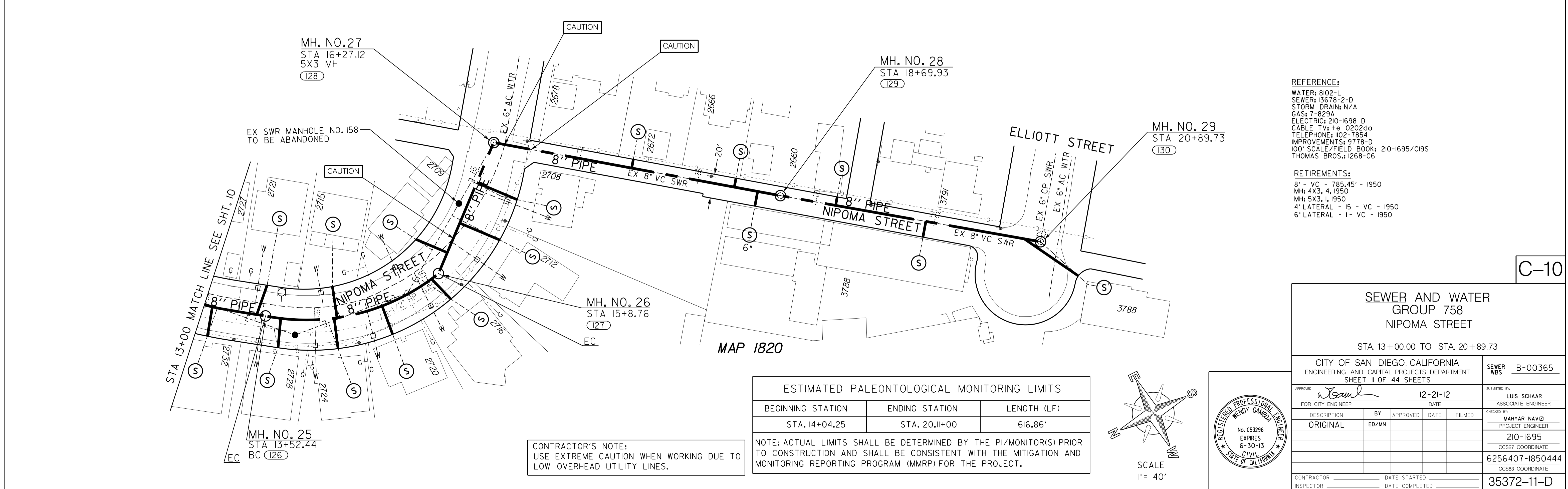
STA. 6+00.00 TO STA. 13+00.00

CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 10 OF 44 SHEETS		SEWER WBS B-00365
APPROVED: <i>[Signature]</i> FOR CITY ENGINEER	DATE 12-21-12	SUBMITTED BY: LUIS SCHAAR ASSOCIATE ENGINEER
DESCRIPTION ORIGINAL	BY ED/MN	CHECKED BY: MAHYAR NAVIZI PROJECT ENGINEER
		210-1695 CCS27 COORDINATE
		6256407-1850444 CCS83 COORDINATE
CONTRACTOR	DATE STARTED	35372-10-D
INSPECTOR	DATE COMPLETED	





SCALE
1" = 40' HORIZ.
1" = 4' VERT.



REFERENCE:
WATER: 8102-L
SEWER: 13678-2-D
STORM DRAIN: N/A
GAS: 7-829A
ELECTRIC: 210-1698 D
CABLE TV: te 0202dd
TELEPHONE: 1102-7854
IMPROVEMENTS: 9778-D
100' SCALE FIELD BOOK: 210-1695/C195
THOMAS BROS.: 1268-C6

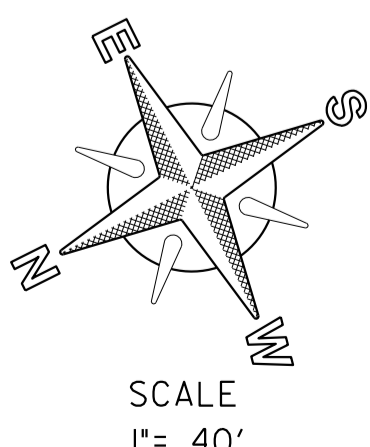
RETIREMENTS:
8" - VC - 785.45' - 1950
MH: 4X3, 4, 1950
MH: 5X3, 1, 1950
4" LATERAL - 15 - VC - 1950
6" LATERAL - 1 - VC - 1950

ESTIMATED PALEONTOLOGICAL MONITORING LIMITS

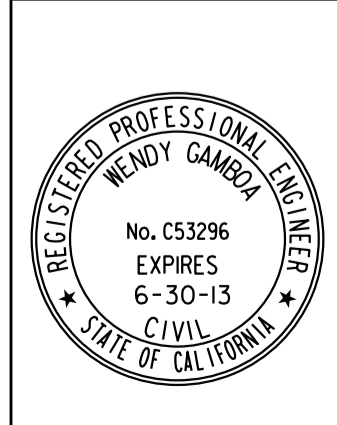
BEGINNING STATION	ENDING STATION	LENGTH (LF)
STA. 14+04.25	STA. 20+11+00	616.86'

NOTE: ACTUAL LIMITS SHALL BE DETERMINED BY THE PI/MONITOR(S) PRIOR TO CONSTRUCTION AND SHALL BE CONSISTENT WITH THE MITIGATION AND MONITORING REPORTING PROGRAM (MMRP) FOR THE PROJECT.

CONTRACTOR'S NOTE:
USE EXTREME CAUTION WHEN WORKING DUE TO LOW OVERHEAD UTILITY LINES.



SCALE
1" = 40'



SEWER AND WATER GROUP 758
NIPOMA STREET
STA. 13+00.00 TO STA. 20+89.73

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS DEPARTMENT
SHEET II OF 44 SHEETS

APPROVED: <i>[Signature]</i> FOR CITY ENGINEER	DATE 12-21-12	PROJECT NO. B-00365
DESCRIPTION ORIGINAL	BY ED/MN	APPROVED DATE FILMED

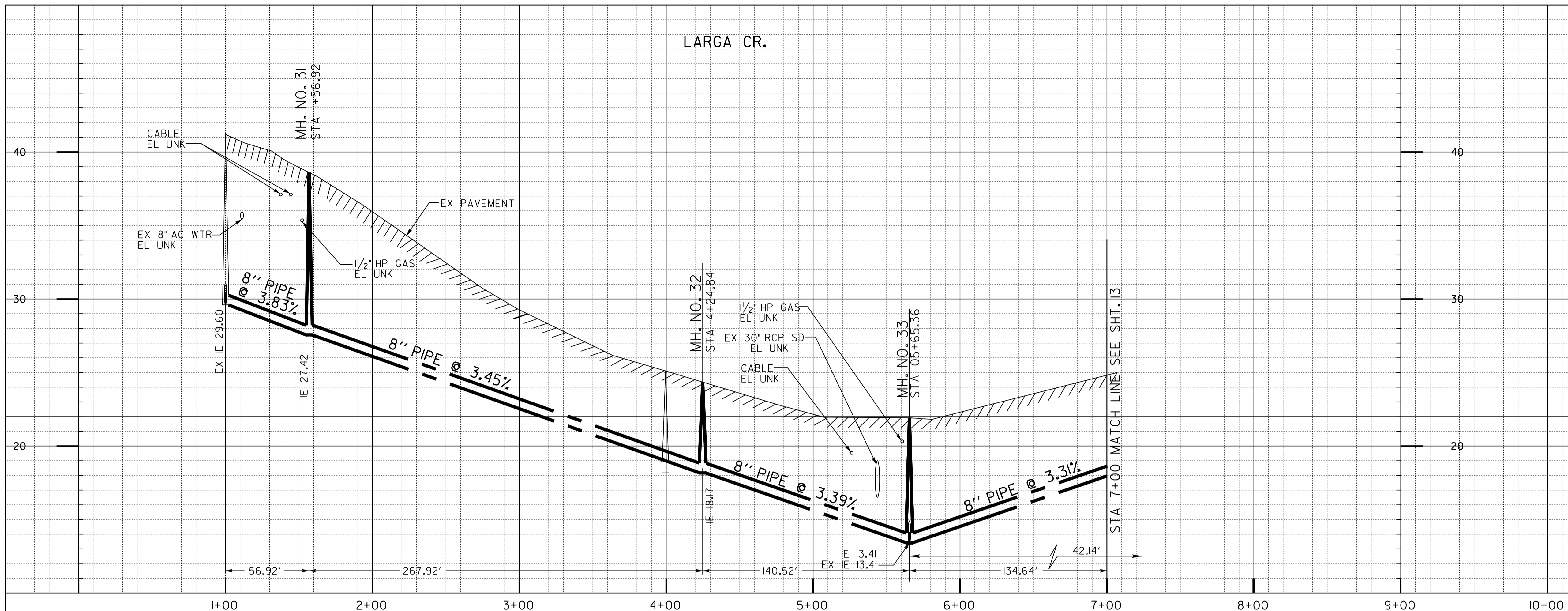
CHIEF ENGINEER: MAHYAR NAVIZI
PROJECT ENGINEER: 210-1695
CCS27 COORDINATE: 6256407-1850444
CCS83 COORDINATE: 35372-11-D

CONTRACTOR: _____ DATE STARTED: _____
INSPECTOR: _____ DATE COMPLETED: _____

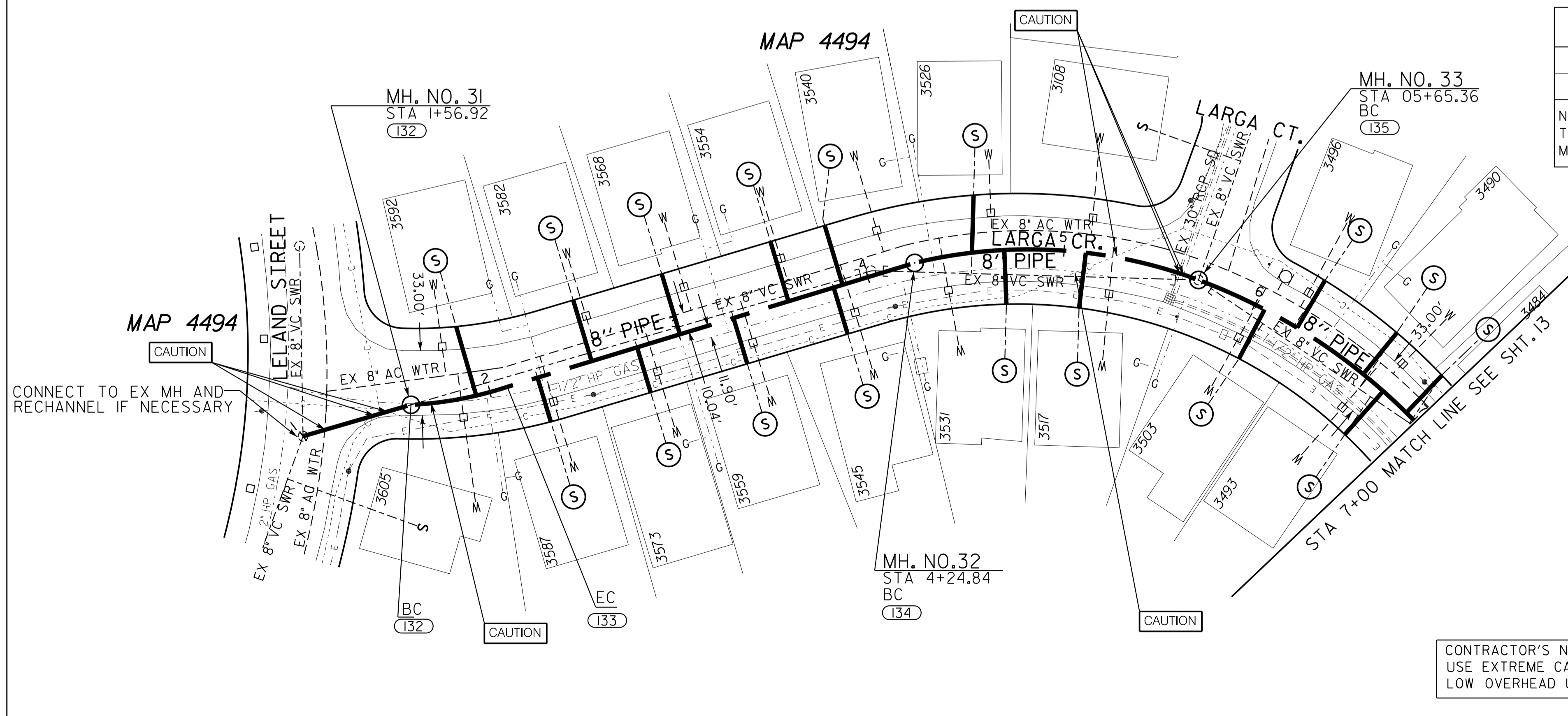
NIPOMA STREET

C-10

LARGA CR.



SCALE
1"=40' HORIZ.
1"= 4' VERT.



ESTIMATED PALEONTOLOGICAL MONITORING LIMITS

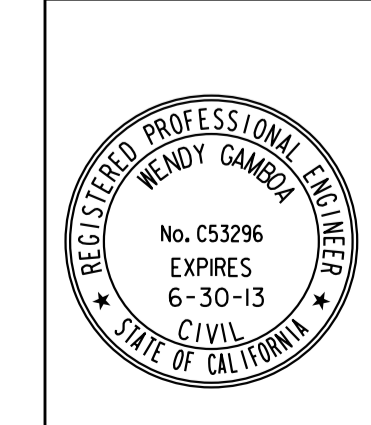
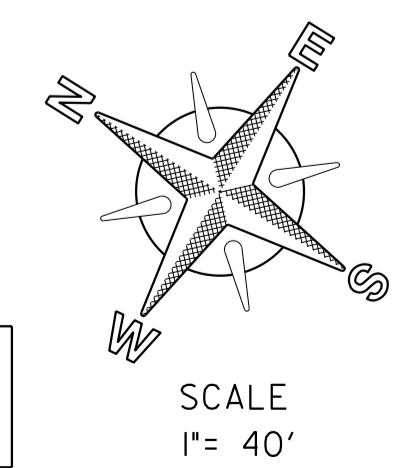
BEGINNING STATION	ENDING STATION	LENGTH (LF)
STA. 01+00.00	STA. 01+74.83	74.83'

NOTE: ACTUAL LIMITS SHALL BE DETERMINED BY THE PI/MONITOR(S) PRIOR TO CONSTRUCTION AND SHALL BE CONSISTENT WITH THE MITIGATION AND MONITORING REPORTING PROGRAM (MMPR) FOR THE PROJECT.

REFERENCE:
WATER: 9105-D
SEWER: 9105-3-D
STORM DRAIN: 9105-D
GAS: 7-829A
ELECTRIC: 212-1701
CABLE TV: e0402bb
TELEPHONE: 1102-7854
IMPROVEMENTS: 9105-D/9106-D
100' SCALE/FIELD BOOK: 210-1695/C195
THOMAS BROS.: 1268-D5

RETIREMENTS:
8" - VC - 600' - 1950
MH: 4X3, 3, 1950
4" LATERAL - 17 - VC - 1950

CONTRACTOR'S NOTE:
USE EXTREME CAUTION WHEN WORKING DUE TO LOW OVERHEAD UTILITY LINES.



SEWER AND WATER GROUP 758
LARGA STREET
LELAND ST. TO STA. 7+00.00

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS DEPARTMENT
SHEET 12 OF 44 SHEETS

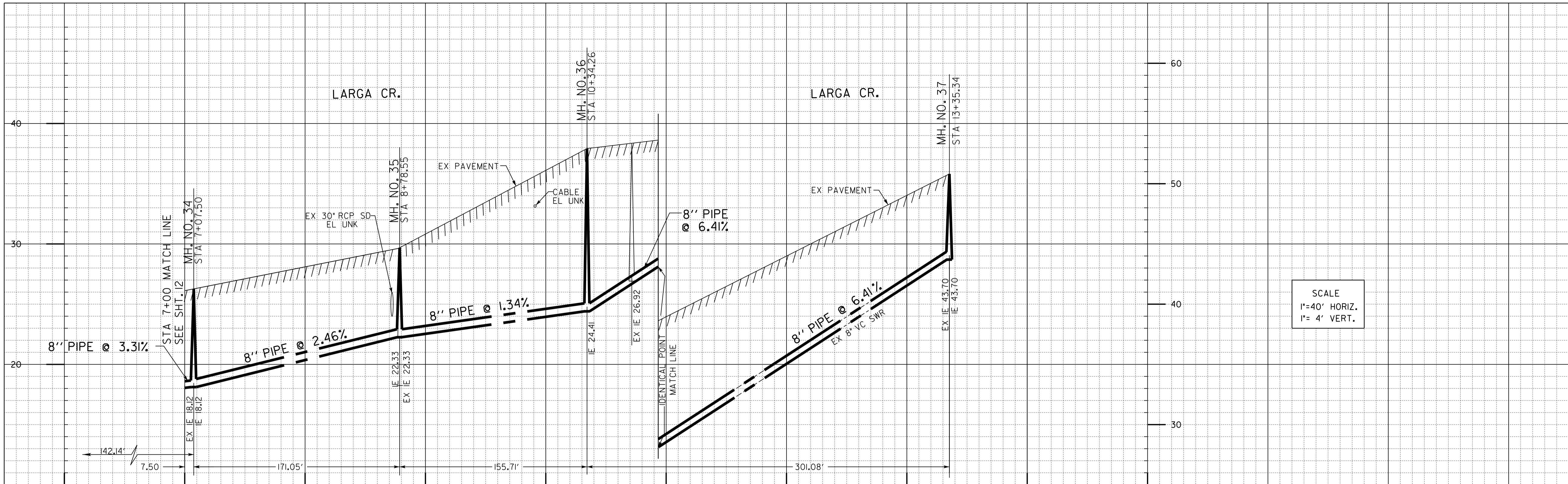
APPROVED: <i>[Signature]</i> FOR CITY ENGINEER	DATE 12-21-12	DATE 12-21-12	DATE 12-21-12	DATE 12-21-12	DATE 12-21-12
DESCRIPTION ORIGINAL	BY ED/MN	APPROVED	DATE	FILMED	

CHIEF ENGINEER: MAHYAR NAVIZI
PROJECT ENGINEER: 210-1695
CCS27 COORDINATE: 6256407-1850444
CCS83 COORDINATE: 35372-12-D

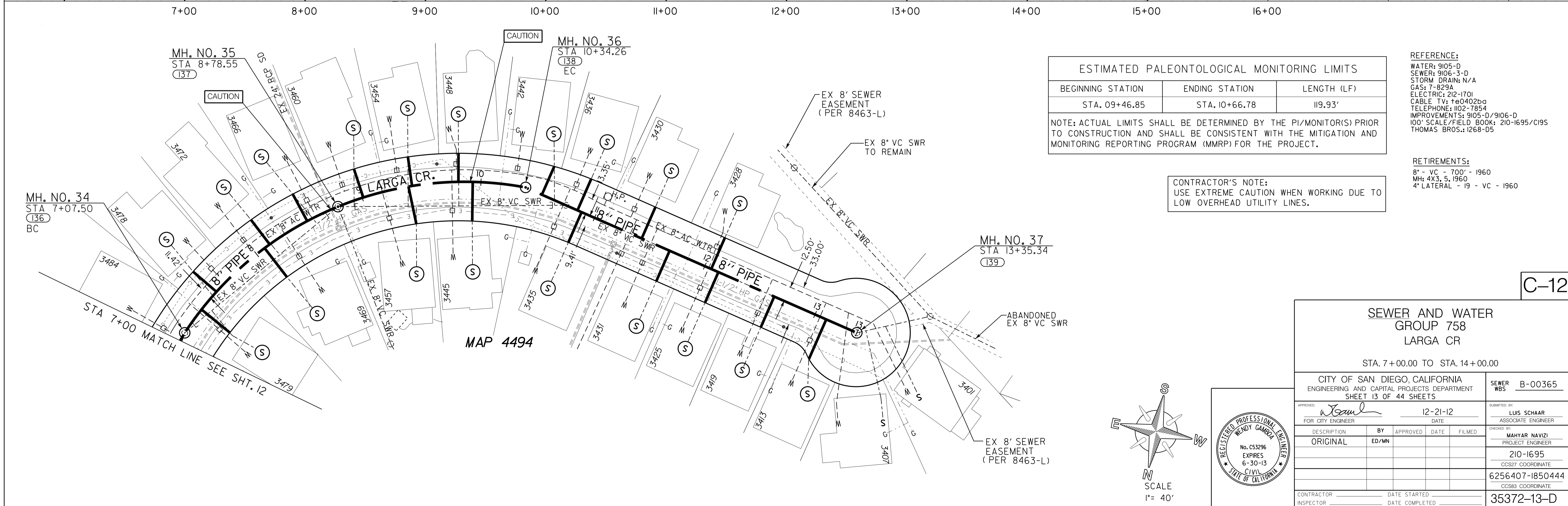
CONTRACTOR: _____ DATE STARTED: _____
INSPECTOR: _____ DATE COMPLETED: _____

LARGA CR.

C-11



SCALE
1"=40' HORIZ.
1"=4' VERT.



ESTIMATED PALEONTOLOGICAL MONITORING LIMITS

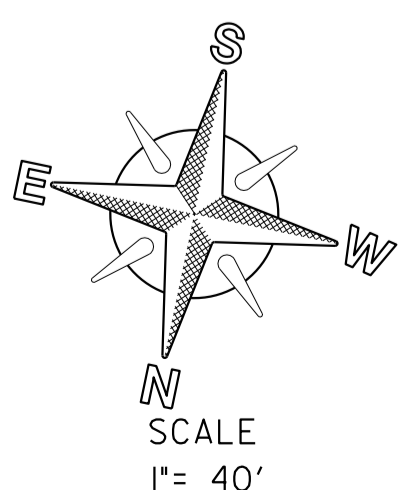
BEGINNING STATION	ENDING STATION	LENGTH (LF)
STA. 09+46.85	STA. 10+66.78	119.93'

NOTE: ACTUAL LIMITS SHALL BE DETERMINED BY THE PI/MONITOR(S) PRIOR TO CONSTRUCTION AND SHALL BE CONSISTENT WITH THE MITIGATION AND MONITORING REPORTING PROGRAM (MMRP) FOR THE PROJECT.

REFERENCE:
WATER: 9105-D
SEWER: 9106-3-D
STORM DRAIN: N/A
GAS: 7-829A
ELECTRIC: 212-1701
CABLE TV: te0402ba
TELEPHONE: 1102-7854
IMPROVEMENTS: 9105-D/9106-D
100' SCALE FIELD BOOKS: 210-1695/C195
THOMAS BROS.: 1268-D5

RETIREMENTS:
8" - VC - 700' - 1960
MH: 4X3, 5, 1960
4" LATERAL - 19 - VC - 1960

CONTRACTOR'S NOTE:
USE EXTREME CAUTION WHEN WORKING DUE TO LOW OVERHEAD UTILITY LINES.



SEWER AND WATER GROUP 758
LARGA CR
STA. 7+00.00 TO STA. 14+00.00

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS DEPARTMENT
SHEET 13 OF 44 SHEETS

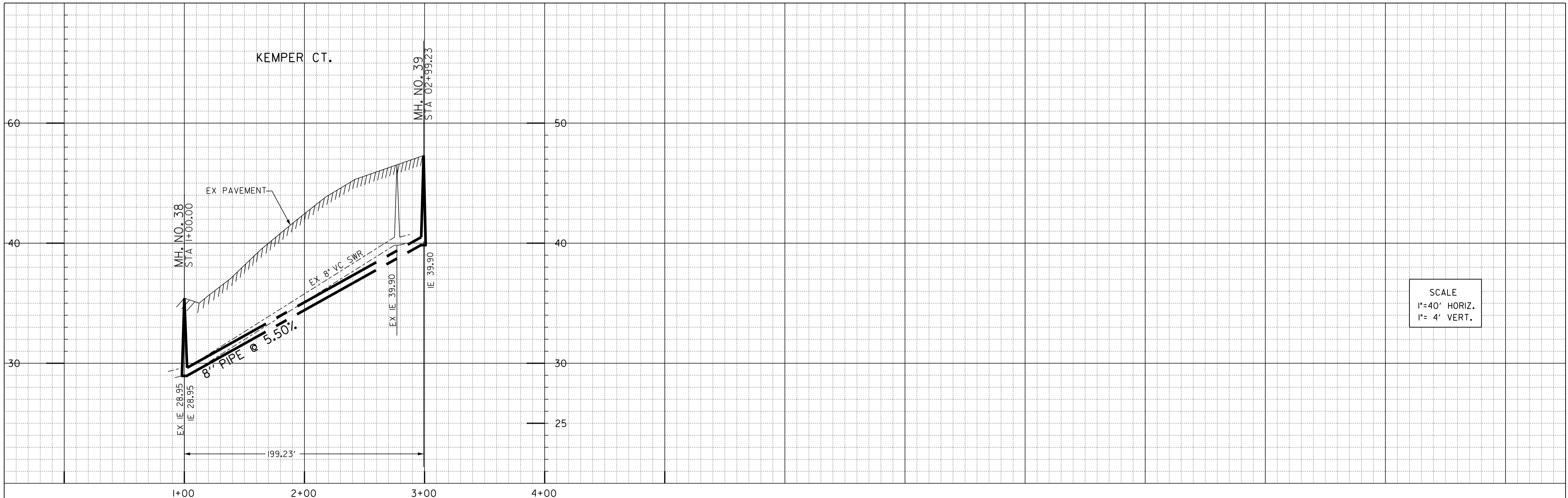
APPROVED FOR CITY ENGINEER	DATE	12-21-12	FOR CITY ENGINEER	DATE	12-21-12
DESCRIPTION	BY	APPROVED	DATE	FILMED	
ORIGINAL	ED/MN				

CONTRACTOR: _____ DATE STARTED: _____
INSPECTOR: _____ DATE COMPLETED: _____

SUBMITTED BY: **LUIS SCHAAR** ASSOCIATE ENGINEER
CHECKED BY: **MAHYAR NAVIZI** PROJECT ENGINEER
210-1695
CCS27 COORDINATE: 6256407-1850444
CCS83 COORDINATE: 35372-13-D

LARGA CR.

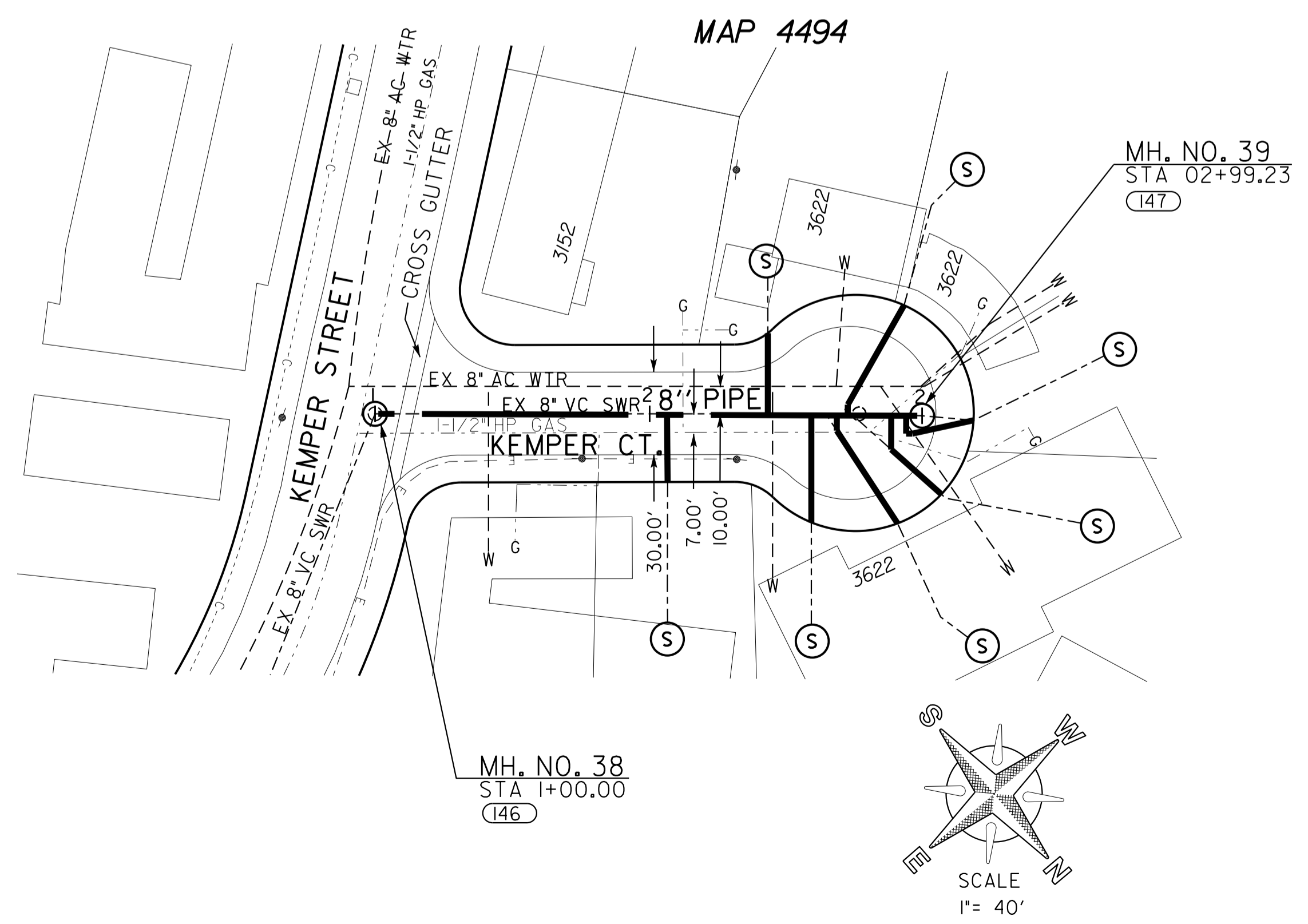
C-12



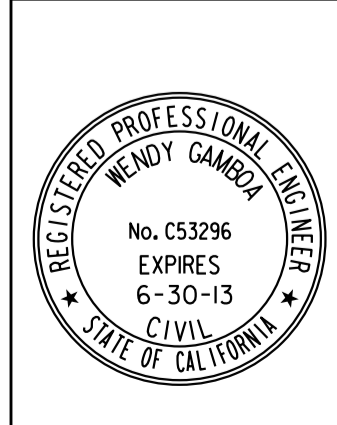
SCALE
 1" = 40' HORIZ.
 1" = 4' VERT.

REFERENCE:
 WATER: 8457-L
 SEWER: 8457-L
 STORM DRAIN: N/A
 GAS: 7-829A
 ELECTRIC: 212-1701
 CABLE TV: te0404dc
 TELEPHONE: 102-7854
 IMPROVEMENTS: 8457-L
 100' SCALE/FIELD BOOK: 210-1701/D19S
 THOMAS BROS.: 1268-C6

RETIREMENTS:
 8" - VC - 299.23' - 1963
 MH: 4X3, 2, 1963
 4" LATERAL - 7 - VC - 1963



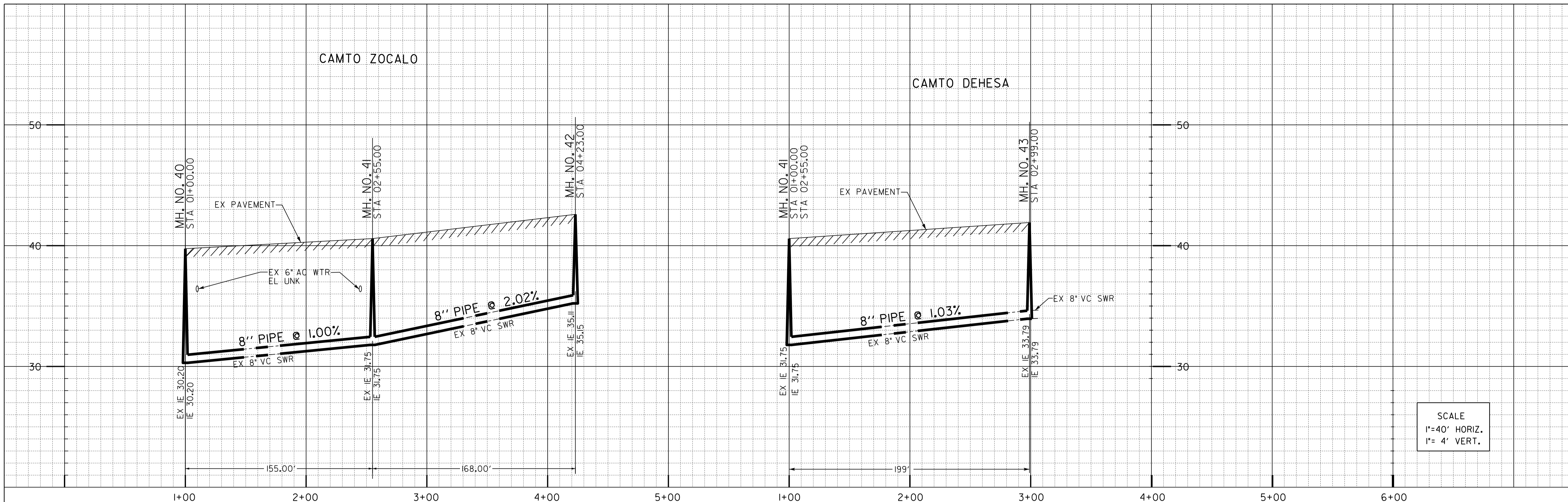
CONTRACTOR'S NOTE:
 USE EXTREME CAUTION WHEN WORKING DUE TO
 LOW OVERHEAD UTILITY LINES.



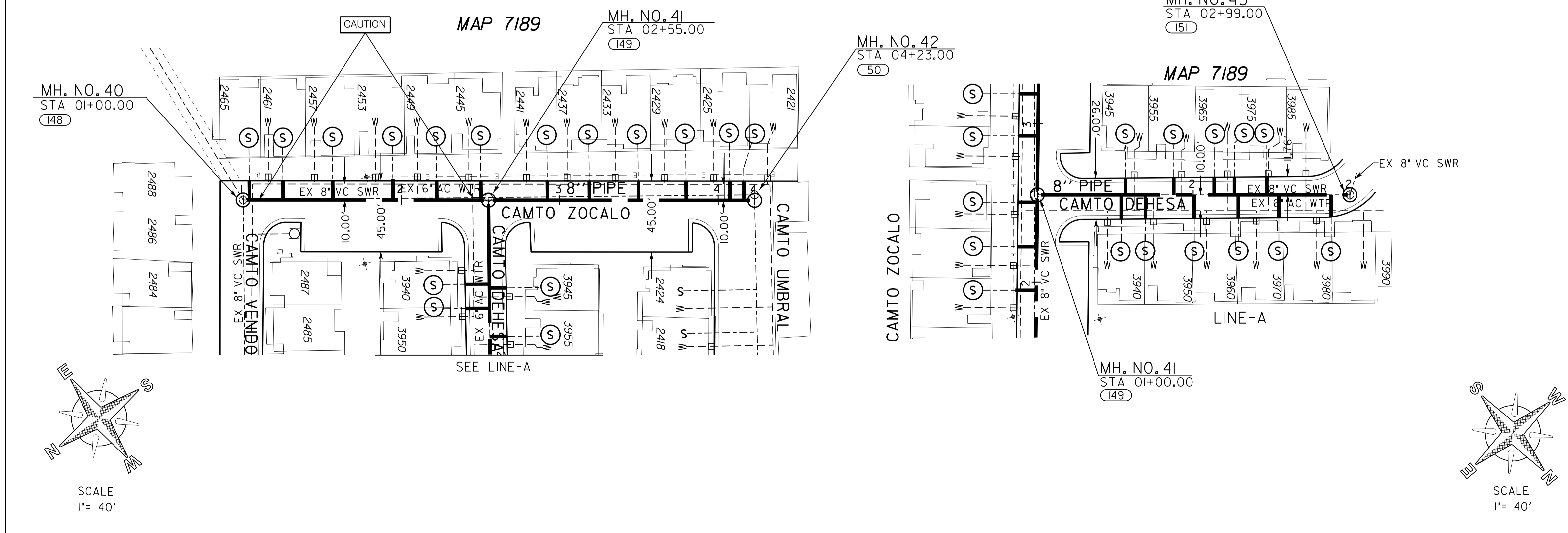
SEWER AND WATER GROUP 758			
KEMPER CT.			
STA. 1+00.00 TO STA. 2+99.23			
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 14 OF 44 SHEETS		SEWER WBS	B-00365
APPROVED: FOR CITY ENGINEER	DATE 12-21-12	SUBMITTED BY: LUIS SCHAAR ASSOCIATE ENGINEER	
DESCRIPTION ORIGINAL	BY ED/MN	APPROVED	DATE 214-1701
		CHECKED BY: MAHYAR NAVIZI PROJECT ENGINEER	
		CCS27 COORDINATE 6262407-1854444	
		CCS83 COORDINATE	
CONTRACTOR	DATE STARTED	35372-14-D	
INSPECTOR	DATE COMPLETED		

C-13

KEMPER CT.



SCALE
1"=40' HORIZ.
1"= 4' VERT.

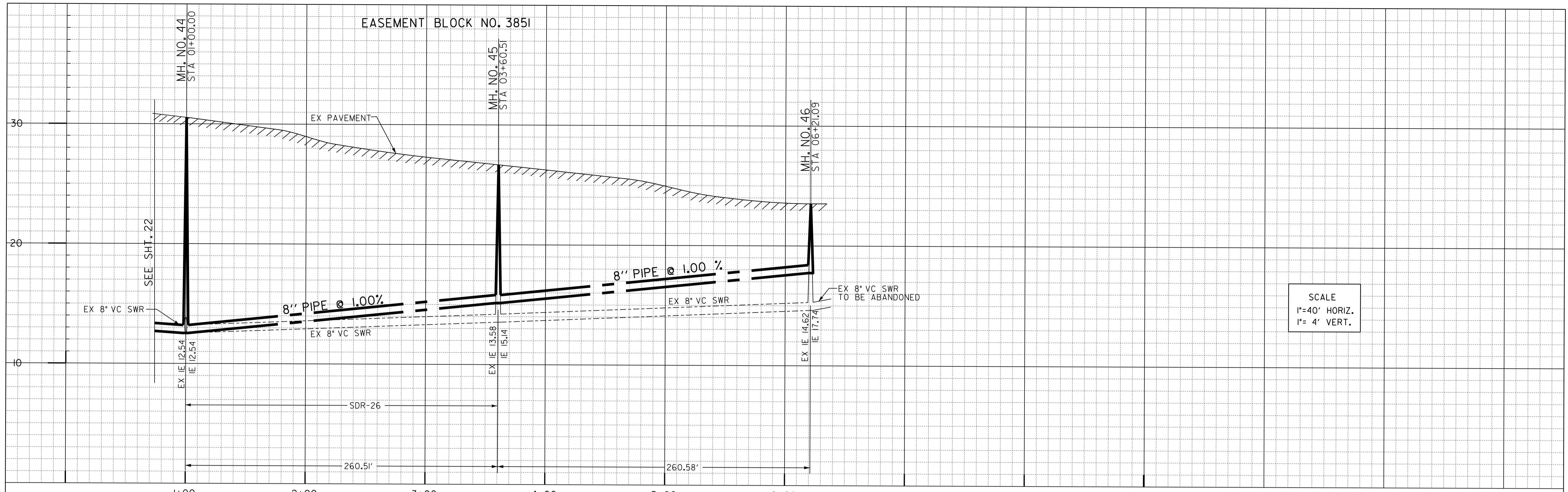


REFERENCE:
WATER: 10651-3-D
SEWER: 2399-D
STORM DRAIN: N/A
GAS: 7-829A
ELECTRIC: 210-1698C
CABLE: 1Vre0202ac
TELEPHONE: 1102-7854
IMPROVEMENTS: 1061-3-D/2399-D
100' SCALE/FIELD BOOK: 210-1701/D195
THOMAS BROS.: 1268-D5/1268-C5

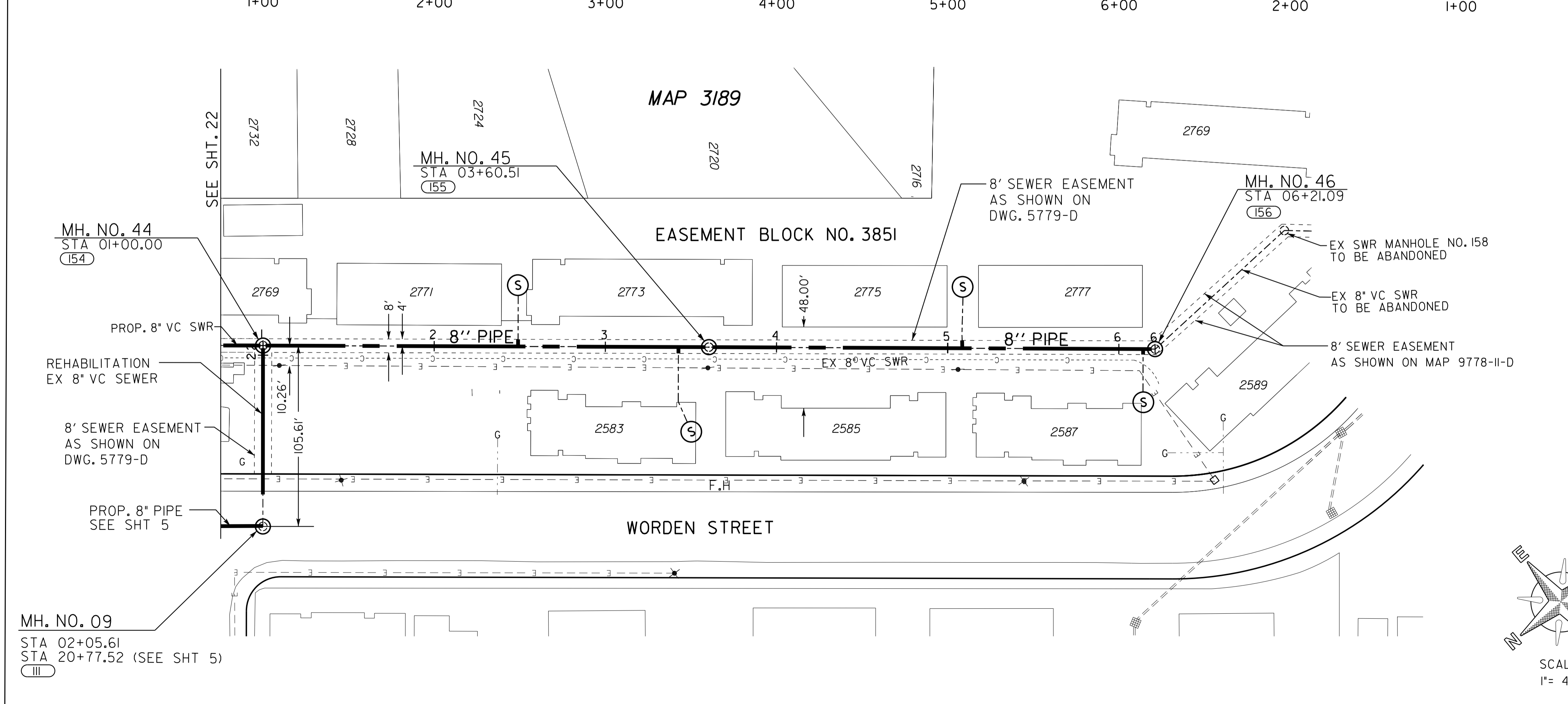
RETIREMENTS:
8" - VC - 522' - 1963
MH: 4X3, 4- 1963
4" LATERAL - 23- VC - 1963

SEWER AND WATER GROUP 758			
CAMINITO ZOCALO /CAMTO DEHESA			
STA. 1+00.00 TO STA. 4+23.00 STA. 1+00.00 TO STA. 02+99.00			
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 15 OF 44 SHEETS		SEWER WBS B-00365	
APPROVED FOR CITY ENGINEER	BY <i>[Signature]</i>	DATE 12-21-12	SUBMITTED BY LUIS SCHAAR ASSOCIATE ENGINEER
DESCRIPTION ORIGINAL	BY ED/MN	APPROVED	DATE
			FILMED
			MAHYAR NAVIZI PROJECT ENGINEER
			214-1701
			CCS27 COORDINATE
			6262407-1850444
			CCS83 COORDINATE
CONTRACTOR	DATE STARTED	35372-15-D	
INSPECTOR	DATE COMPLETED		

C-14



SCALE
1"=40' HORIZ.
1"= 4' VERT.



ESTIMATED PALEONTOLOGICAL MONITORING LIMITS		
BEGINNING STATION	ENDING STATION	LENGTH (LF)
STA. 01+00.00	STA. 04+34.37	334.37'

NOTE: ACTUAL LIMITS SHALL BE DETERMINED BY THE PI/MONITOR(S) PRIOR TO CONSTRUCTION AND SHALL BE CONSISTENT WITH THE MITIGATION AND MONITORING REPORTING PROGRAM (MMRP) FOR THE PROJECT.

- NOTE:**
- PRIOR TO INSTALLATION OF MAIN CONTRACTOR TO POTHOLE AND LOCATE REPLUMB CONNECTION ON SHT.6 RESIDENT ENGINEER TO BE NOTIFIED OF DEPTH OF REPLUMB
 - ONCE REPLUMB I.E. ON SHT 6 HAS BEEN IDENTIFIED CONTRACTOR MUST LOCATE LATERALS ON SHEET 16 PRIOR TO INSTALLATION OF MAIN TO DETERMINE LATERAL SLOPE IS SUFFICIENT FROM THE EDGE OF CITY EASEMENT.

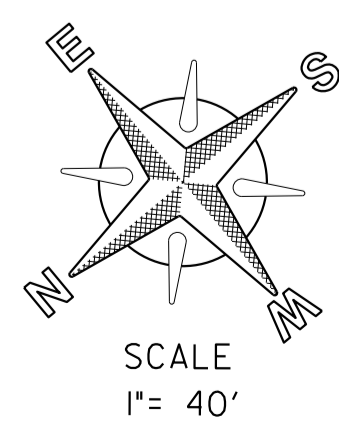
REFERENCE:
 WATER: 9778-8-D
 SEWER: 9778-D
 STORM DRAIN: N/A
 GAS: 7-23
 ELECTRIC: 212-1698B
 CABLE TV: 7e0202od
 TELEPHONE: 102-7854
 IMPROVEMENTS: 9778-D
 100' SCALE / FIELD BOOK: 206-1695/C19S
 THOMAS BROS.: 1268-B6

RETIREMENTS:
 8" - VC - 521.09' - 1958
 MH: 4X3, 3, 1958
 4" LATERAL - 4 - VC - 1958

C-15

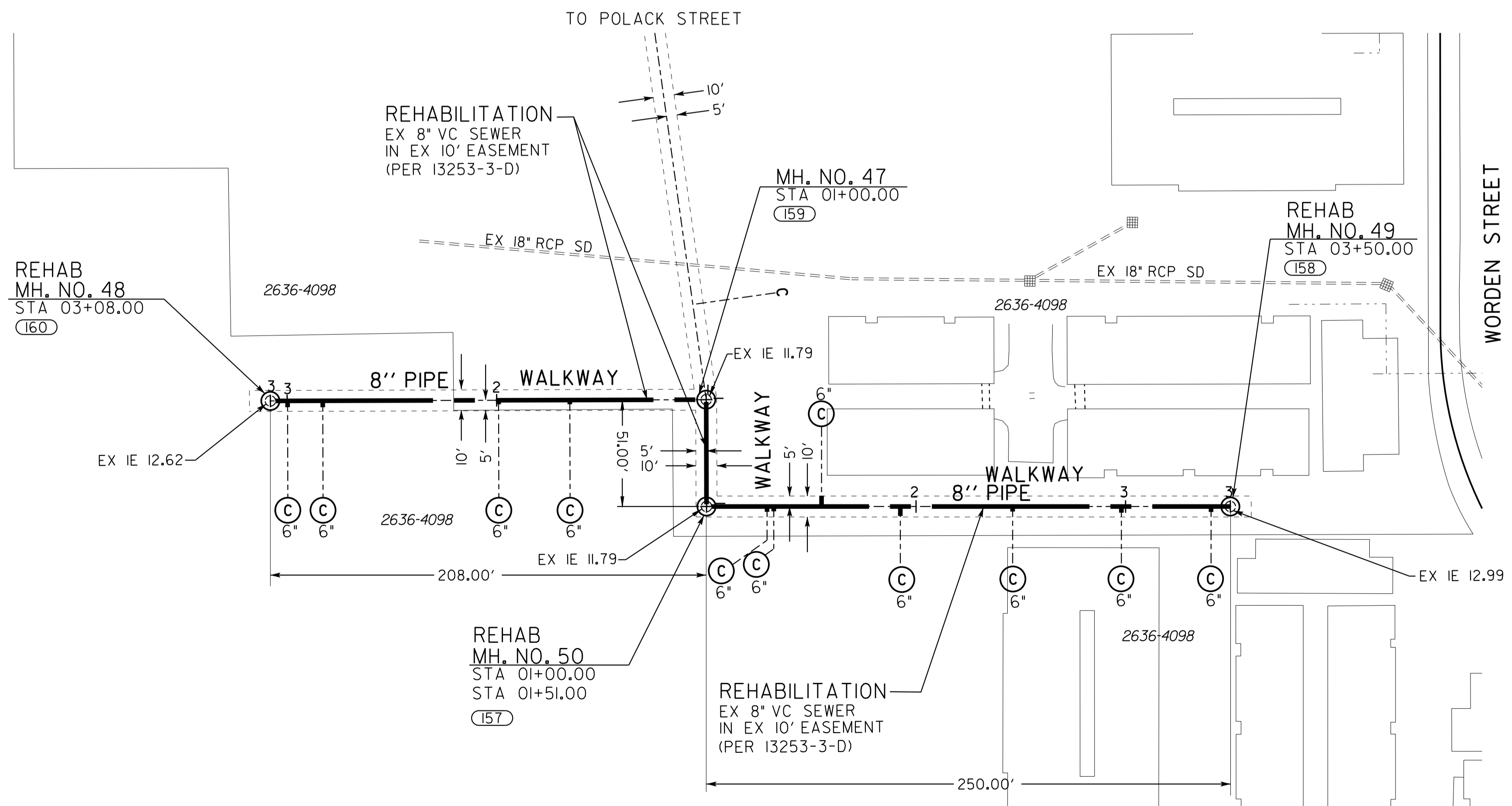
SEWER AND WATER GROUP 758
EASEMENT BLOCK NO.3851
 STA. 1+00.00 TO STA. 6+21.09
 STA. 1+00.00 TO STA. 2+05.61

CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 16 OF 44 SHEETS		SEWER WBS B-00365
APPROVED: <i>[Signature]</i> FOR CITY ENGINEER	DATE: 12-21-12	SUBMITTED BY: LUIS SCHAAR ASSOCIATE ENGINEER
DESCRIPTION: ORIGINAL	BY: ED/MN	CHECKED BY: MAHYAR NAVIZI PROJECT ENGINEER
		210-1695
		6256407-1850444
CONTRACTOR: _____	DATE STARTED: _____	CCS83 COORDINATE: 35372-16-D
INSPECTOR: _____	DATE COMPLETED: _____	



EASEMENT BLOCK NO.3851

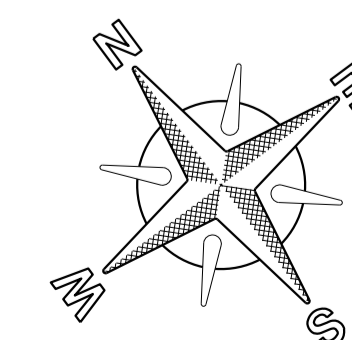
SCALE
1"=40' HORIZ.
1"= 4' VERT.



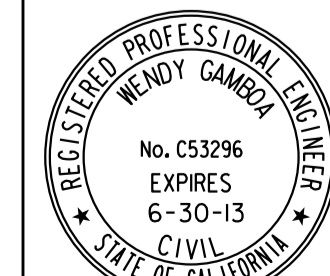
REFERENCE:
WATER: 5578-D
SEWER: 5579-D
STORM DRAIN: 13253-2-D
GAS: 7-768A
ELECTRIC: 212-1698D
CABLE TV: te0202ad
TELEPHONE: 1102-7854
IMPROVEMENTS: 5578-D/5579-D
100' SCALE/FIELD BOOK: 210-1695/CI95
THOMAS BROS.: 1268-C6

RETIREMENTS:
8" - VC - 358.79' - 1963
MH: 4X3.-3-1963
6" LATERAL CONNECTION - II- VC - 1963

- NOTE:
- EQUIPMENT AND MATERIALS MUST BE HAND CARRIED ON WALKWAYS
 - CONTRACTOR TO VERIFY SIZE OF LATERALS DURING PRE-VIDEO



SCALE
1"= 40'

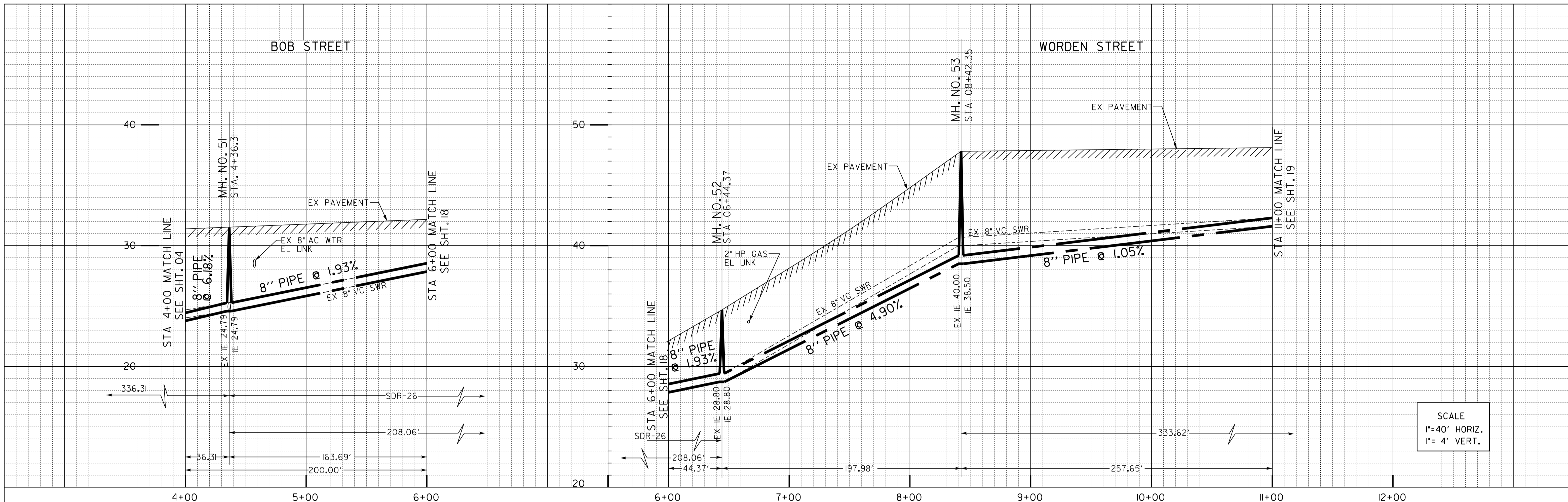


SEWER AND WATER GROUP 758			
WALK WAY			
STA. 1+00.00 TO STA. 3+50.00 STA. 1+00.00 TO STA. 03+08.00			
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 17 OF 44 SHEETS			SEWER W.O. B-00365
APPROVED FOR CITY ENGINEER	<i>[Signature]</i>	DATE	12-21-12
DESCRIPTION	BY	APPROVED	DATE
ORIGINAL	ED/MN		
SUBMITTED BY			LUIS SCHAAR ASSOCIATE ENGINEER
CHECKED BY			MAHYAR NAVIZI PROJECT ENGINEER
			210-1695 CCS27 COORDINATE
			6256407-1850444 CCS83 COORDINATE
CONTRACTOR	DATE STARTED	35372-17-D	
INSPECTOR	DATE COMPLETED		

C-15

WORDEN STREET

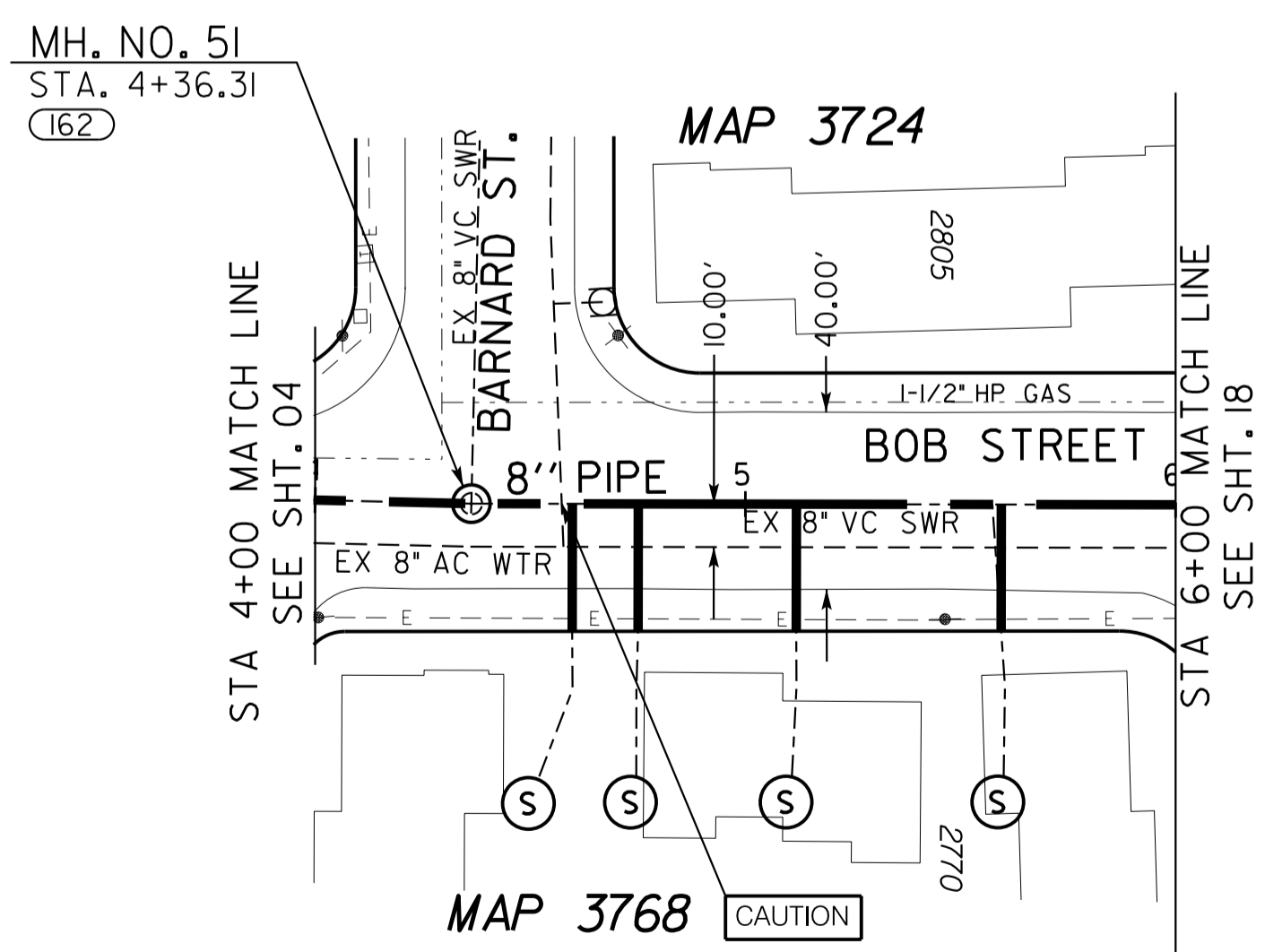
WORDEN STREET AND BOB STREET



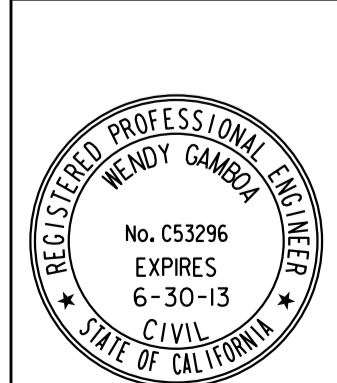
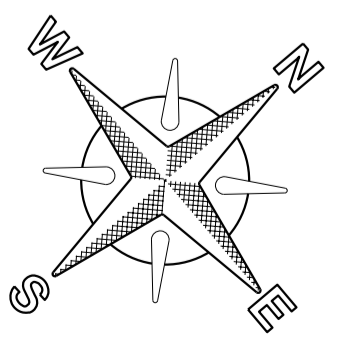
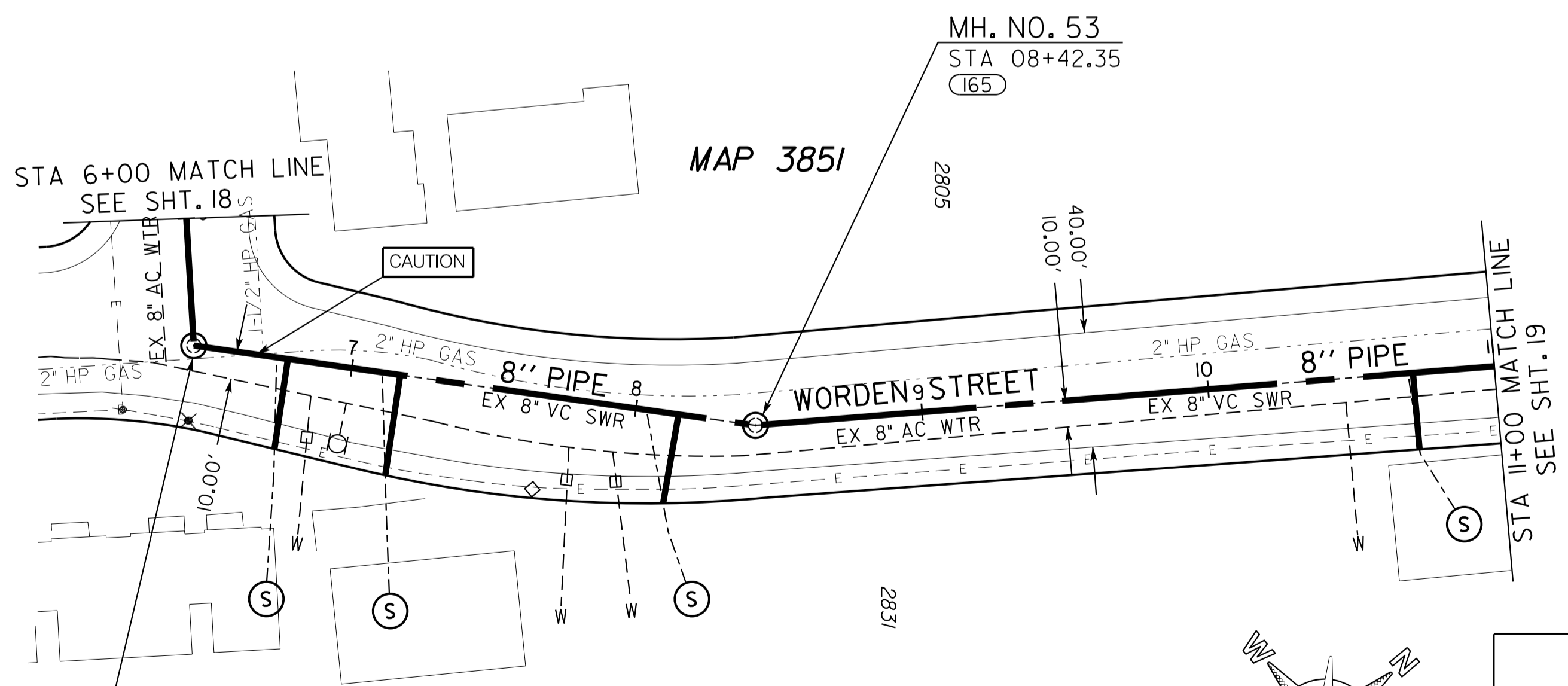
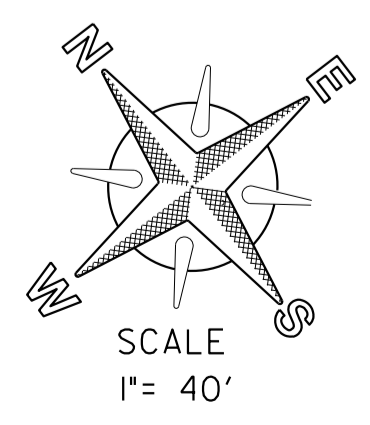
SCALE
1"=40' HORIZ.
1"= 4' VERT.

REFERENCE:
WATER: 5109-D
SEWER: 5109-D
STORM DRAIN: N/A
GAS: 7-765A
ELECTRIC: 214-1698
CABLE TV: 1e0202cb
TELEPHONE: 1102-7854
IMPROVEMENTS: 5109-B
100' SCALE/FIELD BOOK: 238-1695/C125
THOMAS BROS.: 1268-A5

RETIREMENTS:
8" - VC - 700.00' - 1963
MH: 4X3,-3- 1963
4" LATERAL - 8- VC - 1963

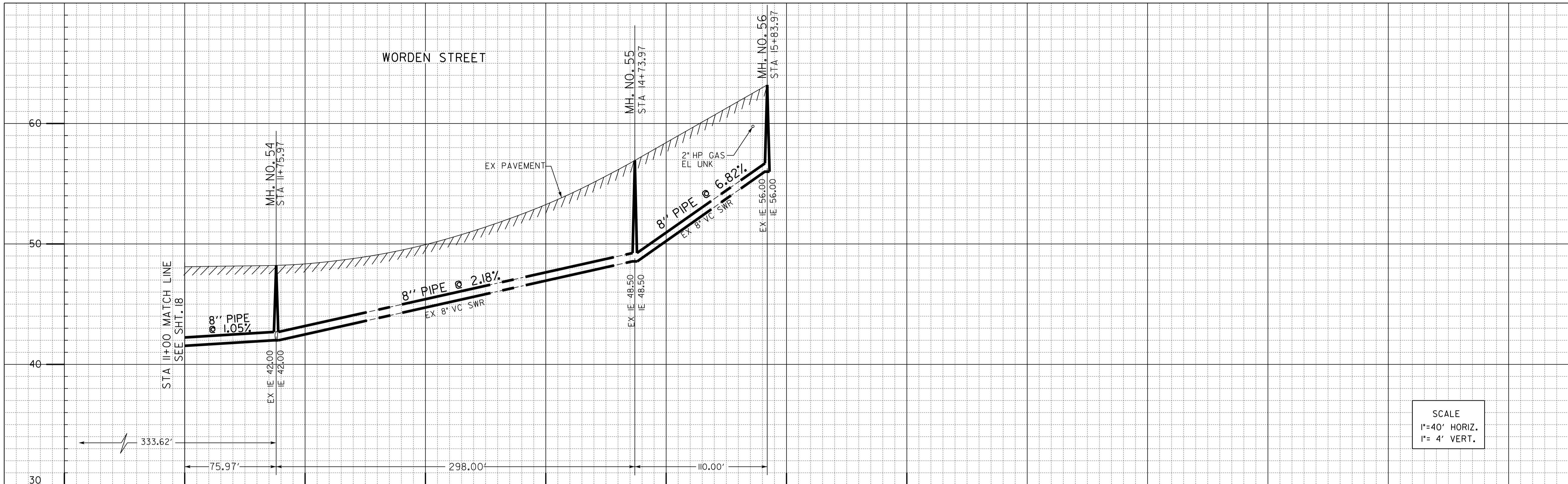


CAUTION:
USE EXTREME CAUTION WHEN WORKING
DUE TO LOW OVERHEAD UTILITY LINES

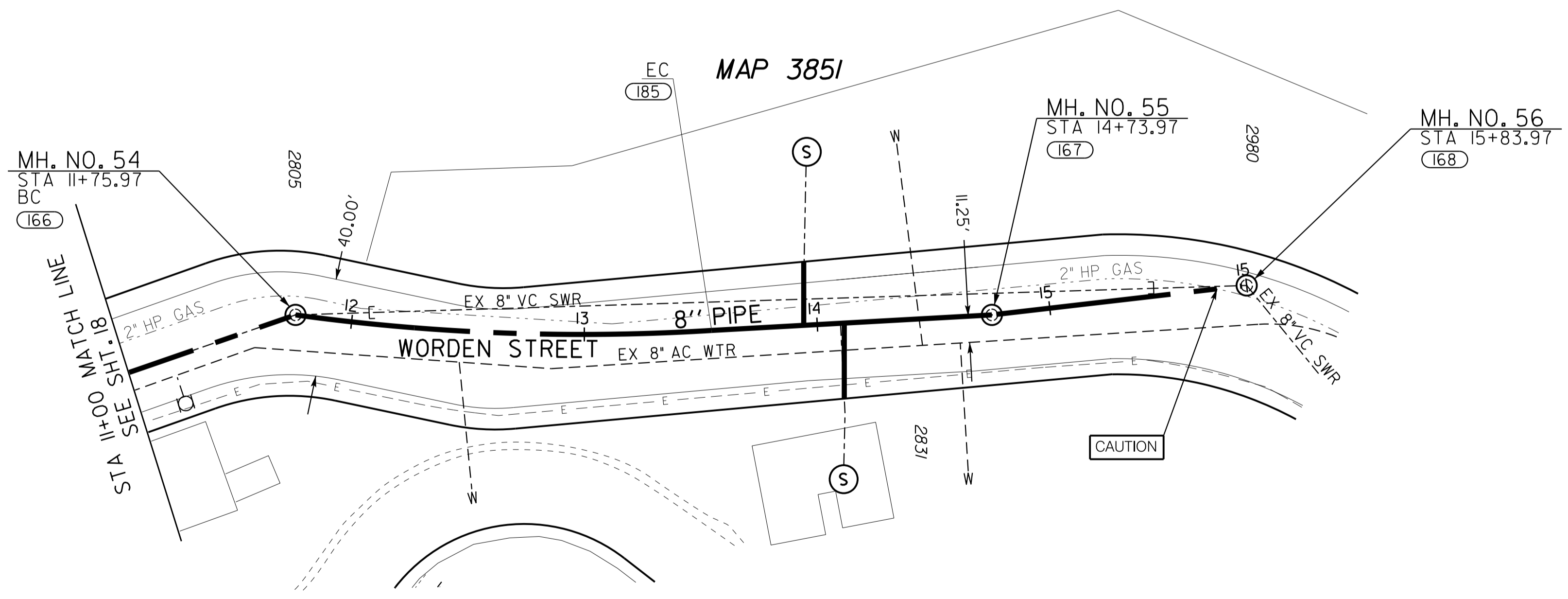


SEWER AND WATER GROUP 758			
BOB ST. TO STA. WORDEN ST. STA. 04+0.00 TO STA. 06+0.00 STA. 06+0.00 TO STA. 11+0.00			
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 18 OF 44 SHEETS		SEWER W.O. B-00365	
APPROVED FOR CITY ENGINEER	DATE	SUBMITTED BY	ASSOCIATE ENGINEER
<i>W. Gamble</i>	12-21-12	LUIS SCHAAR	
DESCRIPTION	BY	APPROVED	DATE
ORIGINAL	ED/MN		
CHECKED BY			PROJECT ENGINEER
			MAHYAR NAVIZI
			210-1695
			CCS27 COORDINATE
			6256407-1850444
			CCS83 COORDINATE
CONTRACTOR	DATE STARTED	35372-18-D	
INSPECTOR	DATE COMPLETED		

C-17



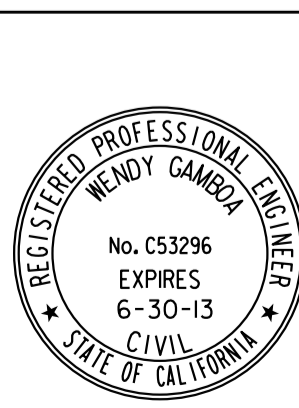
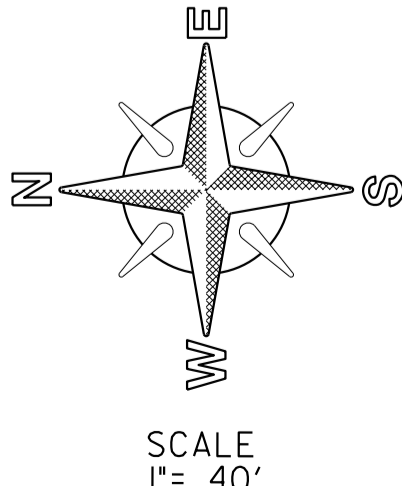
SCALE
1"=40' HORIZ.
1"= 4' VERT.



REFERENCE:
WATER: 8457-L
SEWER: 8457-L
STORM DRAIN: N/A
GAS: 7-829A
ELECTRIC: 210-1701D
CABLE TV: t02020d
TELEPHONE: 102-7854
IMPROVEMENTS: 8457-L
100' SCALE/FIELD BOOK: 210-1701/D19S
THOMAS BROS.: 1268-C6

RETIREMENTS:
8" - VC - 440.00' - 1963
MH: 4X3, 3, 1963
4" LATERAL - 2 - VC - 1963

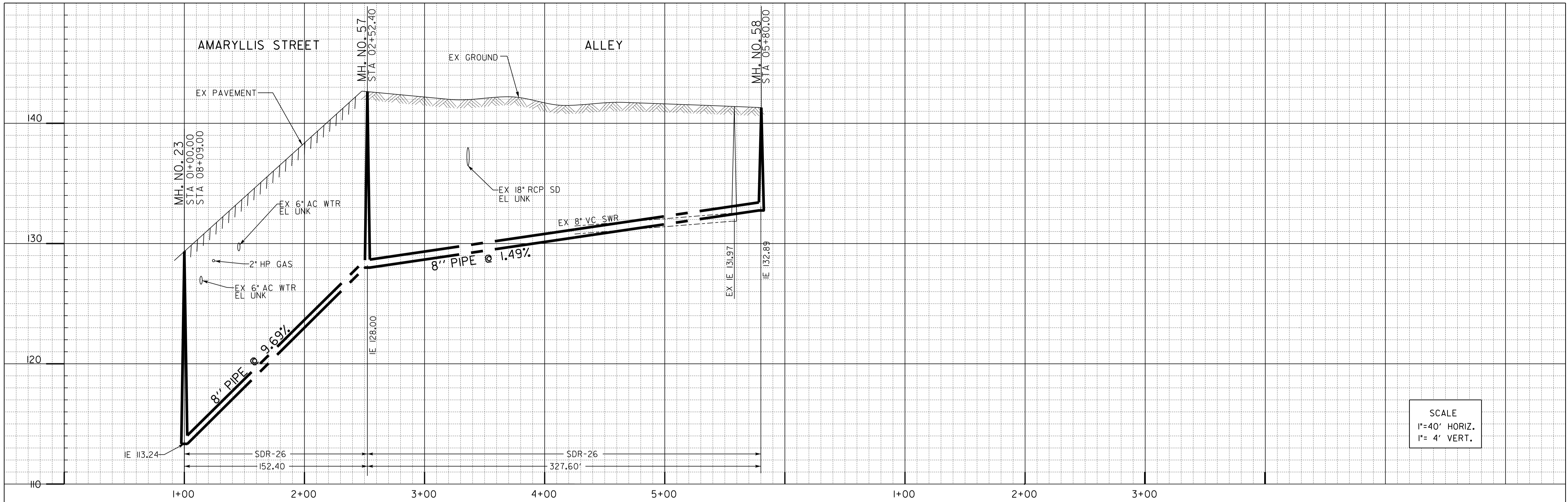
CONTRACTOR'S NOTE:
USE EXTREME CAUTION WHEN WORKING DUE TO
LOW OVERHEAD UTILITY LINES.



SEWER AND WATER GROUP 758 WORDEN STREET			
STA. 11+00.00 TO STA. 15+83.97			
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 19 OF 44 SHEETS			
APPROVED: <i>[Signature]</i> FOR CITY ENGINEER	DATE 12-21-12	DATE	FILED
DESCRIPTION ORIGINAL	BY ED/MN	APPROVED	FILED
SUBMITTED BY LUIS SCHAAR ASSOCIATE ENGINEER		CHECKED BY MAHYAR NAVIZI PROJECT ENGINEER	
CONTRACTOR 35372-19-D		DATE STARTED	
INSPECTOR		DATE COMPLETED	
PROJECT NUMBER 210-1695		COORDINATE CCS27 6256407-1850444	
COORDINATE CCS83		COORDINATE	

C-18

WORDEN STREET



SCALE
1"=40' HORIZ.
1"= 4' VERT.

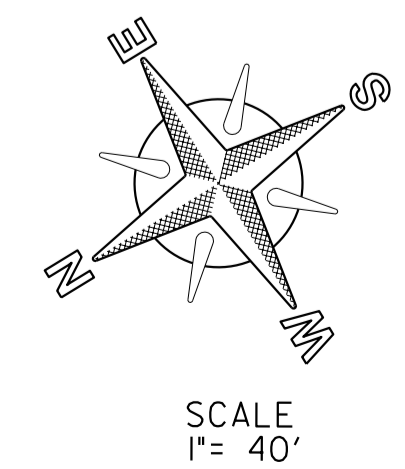
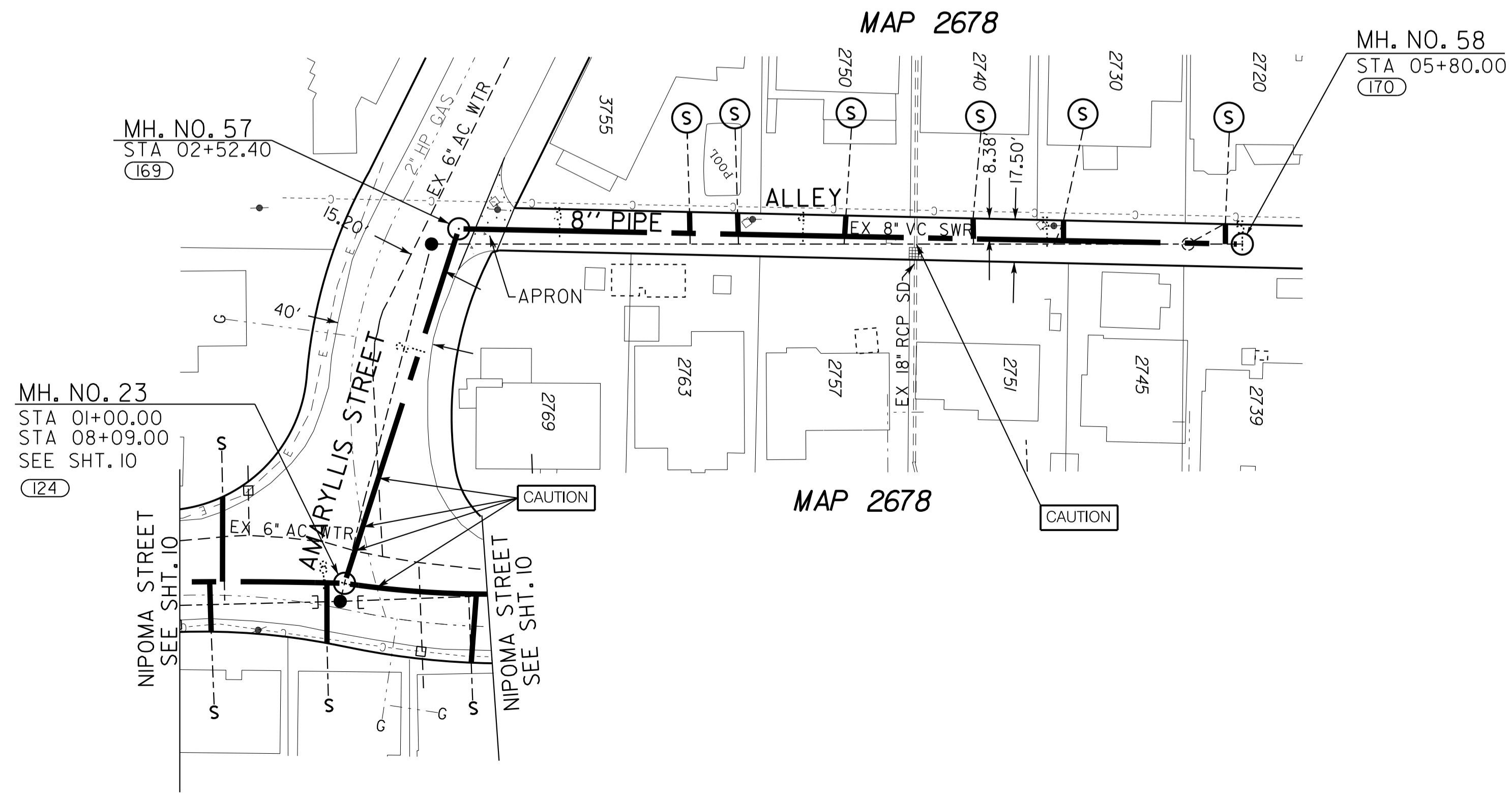
ESTIMATED PALEONTOLOGICAL MONITORING LIMITS		
BEGINNING STATION	ENDING STATION	LENGTH (LF)
STA. 01+00.00	STA. 04+10.02	310.02'

NOTE: ACTUAL LIMITS SHALL BE DETERMINED BY THE PI/MONITOR(S) PRIOR TO CONSTRUCTION AND SHALL BE CONSISTENT WITH THE MITIGATION AND MONITORING REPORTING PROGRAM (MMPR) FOR THE PROJECT.

REFERENCE:
WATER: 9778-8-D
SEWER: 8102-L
STORM DRAIN: N/A
GAS: 7-23
ELECTRIC: 212-1698B
CABLE TV: Fe0202bb
TELEPHONE: 102-7854
IMPROVEMENTS: 9778-D
100' SCALE/FIELD BOOK: 206-1695/C195
THOMAS BROS.: 1268-B6

RETIREMENTS:
8" - VC - 457.79' - 1951
MH: 4X3, -2- 1963
4" LATERAL - 6- VC - 1951

CAUTION:
USE EXTREME CAUTION WHEN WORKING
DUE TO LOW OVERHEAD UTILITY LINES



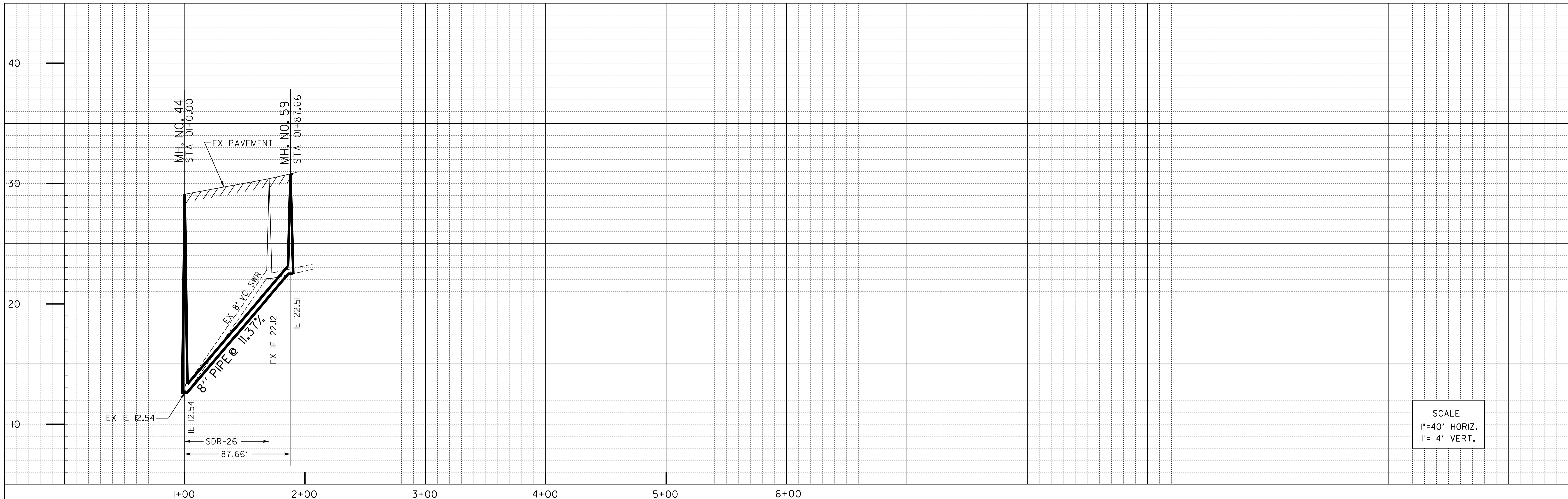
SCALE
1"= 40'



SEWER AND WATER GROUP 758 AMARYLLIS STREET /ALLEY			
STA. 1+00.00 TO STA. 5+80.00			
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 20 OF 44 SHEETS			SEWER W.O. B-00365
APPROVED: FOR CITY ENGINEER	<i>[Signature]</i>	DATE 12-21-12	SUBMITTED BY: LUIS SCHAAR ASSOCIATE ENGINEER
DESCRIPTION ORIGINAL	BY ED/MN	APPROVED DATE	CHECKED BY: MAHYAR NAVIZI PROJECT ENGINEER
			210-1695 CCS27 COORDINATE
			6256407-1850444 CCS83 COORDINATE
CONTRACTOR	DATE STARTED	35372-20-D	
INSPECTOR	DATE COMPLETED		

C-19

AMARYLLIS STREET /ALLEY



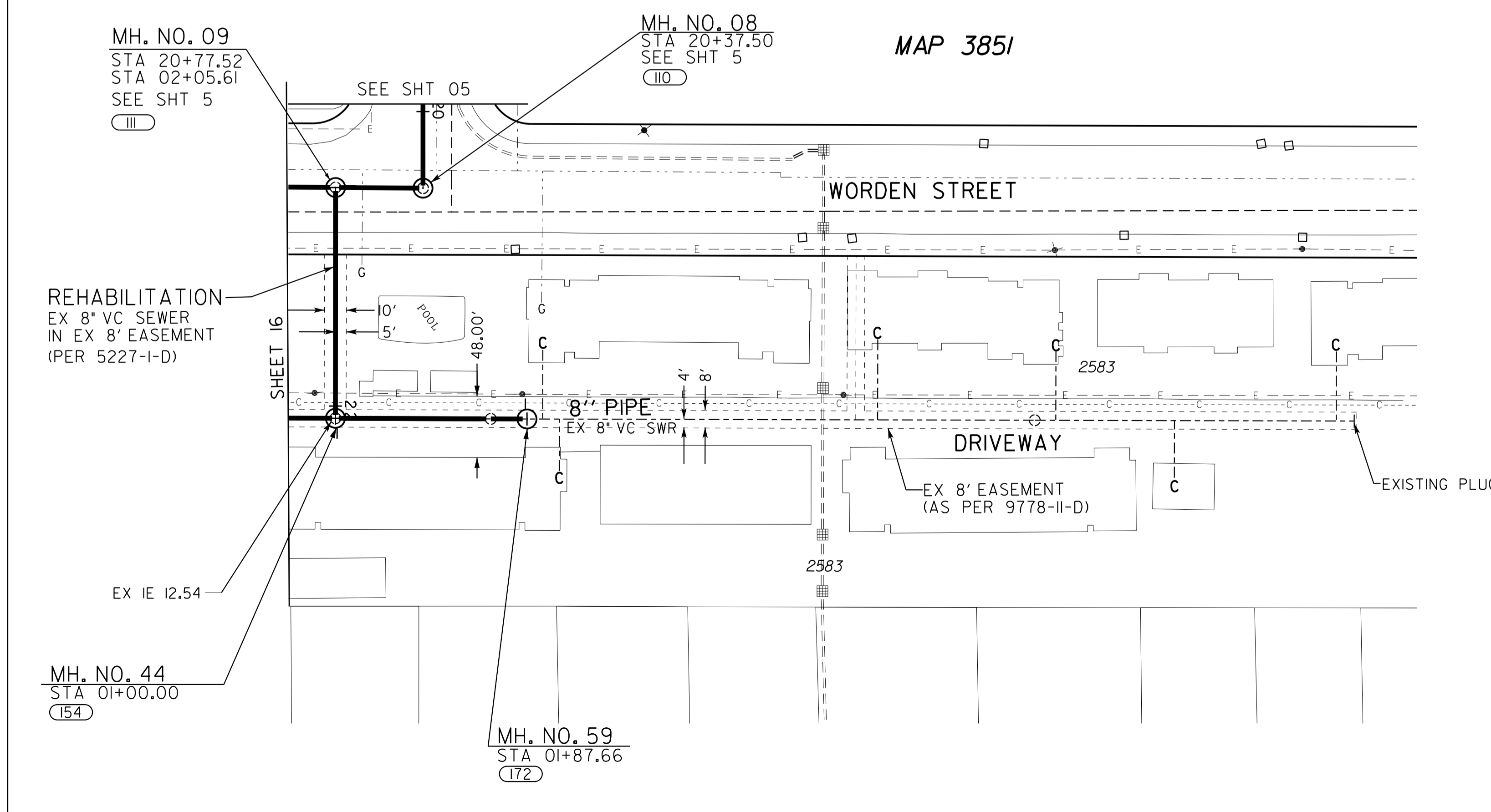
SCALE
1"=40' HORIZ.
1"= 4' VERT.

ESTIMATED PALEONTOLOGICAL MONITORING LIMITS		
BEGINNING STATION	ENDING STATION	LENGTH (LF)
STA. 01+00.00	STA. 01+59.44	59.44'

NOTE: ACTUAL LIMITS SHALL BE DETERMINED BY THE PI/MONITOR(S) PRIOR TO CONSTRUCTION AND SHALL BE CONSISTENT WITH THE MITIGATION AND MONITORING REPORTING PROGRAM (MMRP) FOR THE PROJECT.

REFERENCE:
WATER: 9778-8-D
SEWER: 9778-D
STORM DRAIN: N/A
GAS: 7-23
ELECTRIC: 212-1698B
CABLE TV: te0202ad
TELEPHONE: 1102-7854
IMPROVEMENTS: 9778-D
100' SCALE/FIELD BOOK: 206-1695/C195
THOMAS BROS.: 1268-B6

RETIREMENTS:
8' - VC - 633,67' - 1963
MH: 4X3, -4- 1963

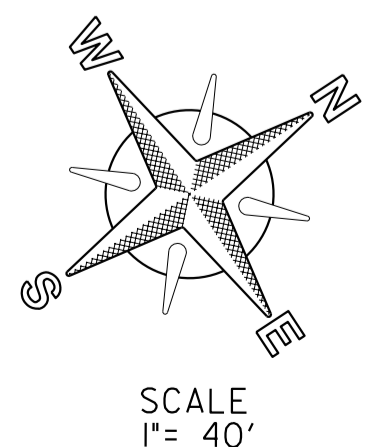


C-20

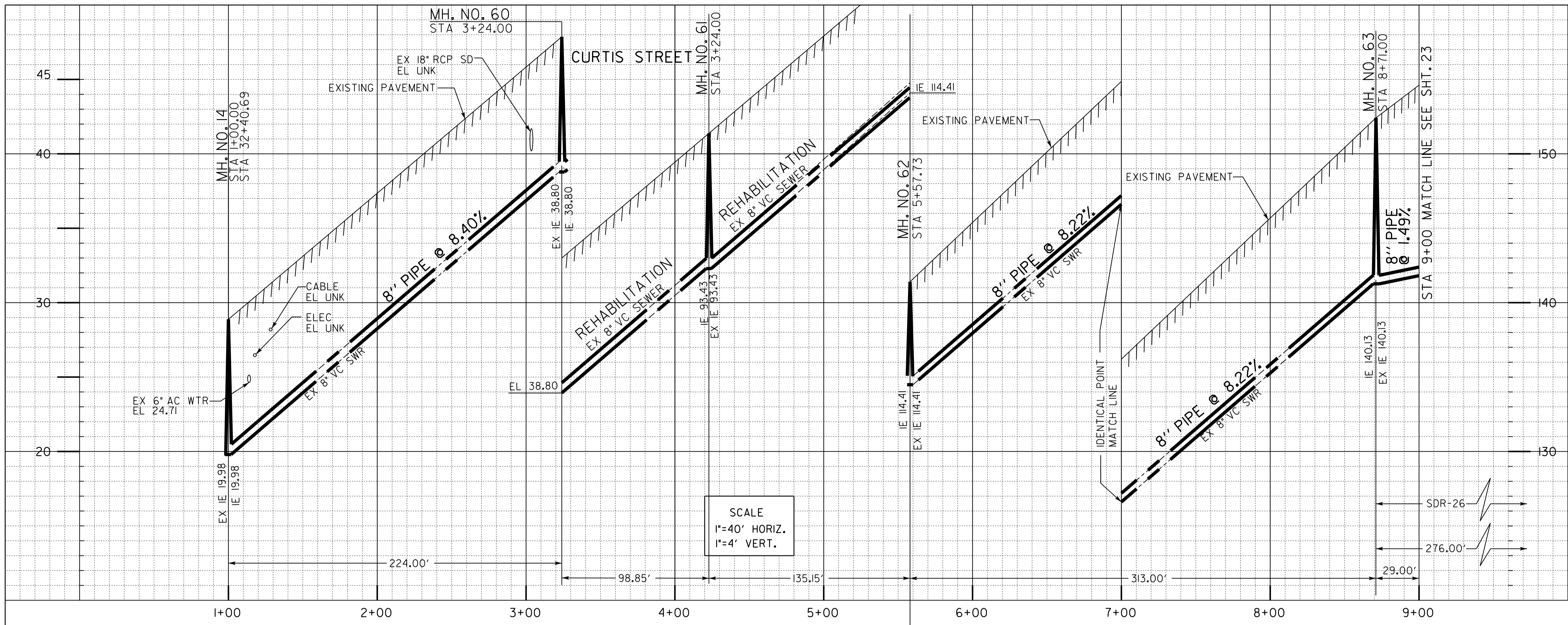
SEWER AND WATER GROUP 758
WORDEN STREET

STA. 1+00.00 TO STA. 5+70.00
STA. 1+00.00 TO STA. 2+63.67

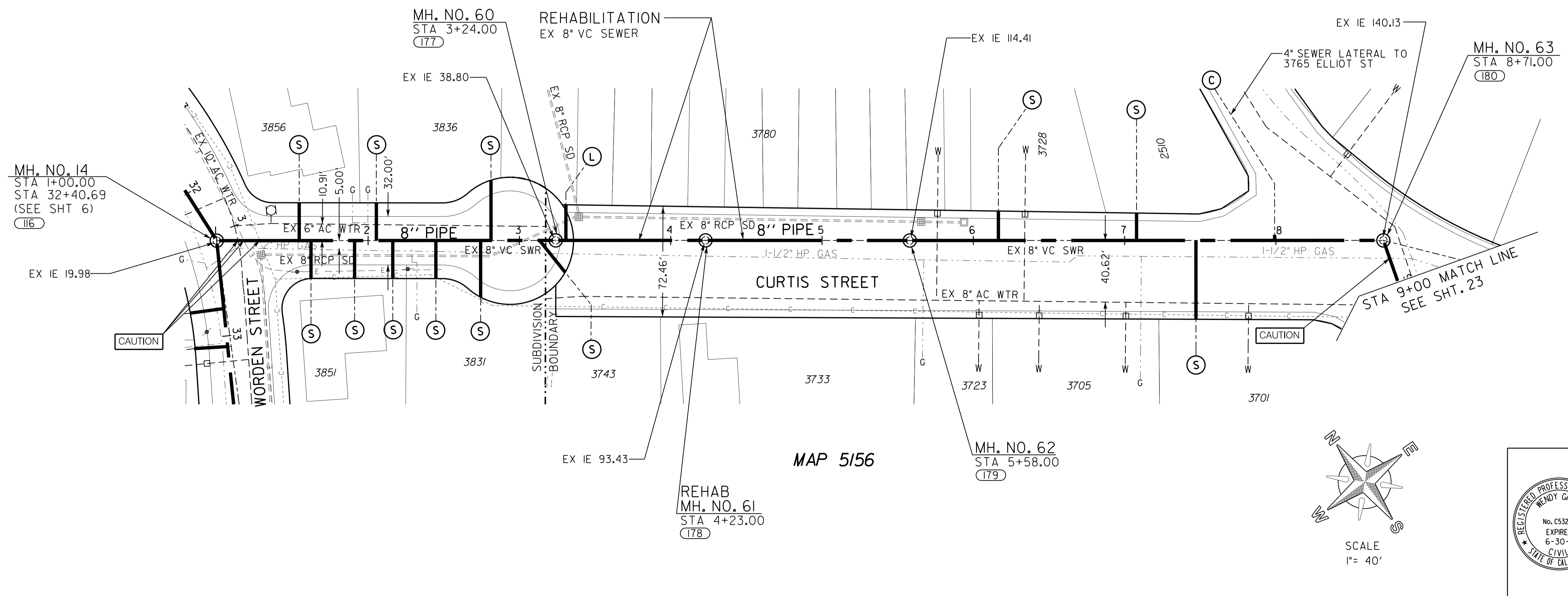
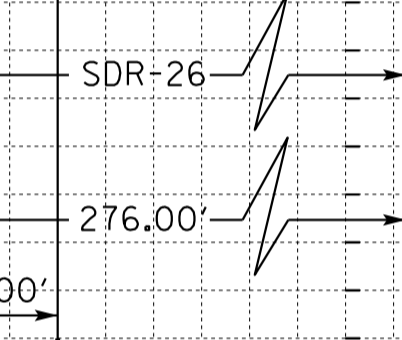
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 21 OF 44 SHEETS		SEWER W.O. B-00365
APPROVED: FOR CITY ENGINEER	DATE 12-21-12	SUBMITTED BY: LUIS SCHAAR ASSOCIATE ENGINEER
DESCRIPTION ORIGINAL	BY ED/MN	CHECKED BY: MAHYAR NAVIZI PROJECT ENGINEER
	APPROVED DATE FILMED	210-1695 CCS27 COORDINATE
		6256407-1850444 CCS83 COORDINATE
CONTRACTOR	DATE STARTED	35372-21-D
INSPECTOR	DATE COMPLETED	



WORDEN STREET

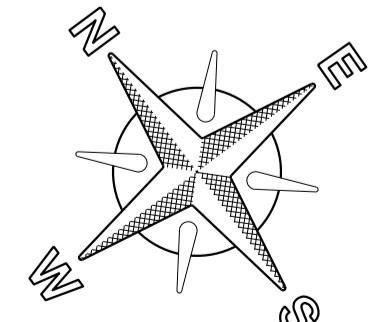


SCALE
1"=40' HORIZ.
1"=4' VERT.



REFERENCE:
WATER: 9778-8-D
SEWER: 30822-D
STORM DRAIN: N/A
GAS: T-298H
ELECTRIC: 212-1698B
CABLE TV: 1e0202bb
TELEPHONE: 102-7854
IMPROVEMENTS: 9778-D
100' SCALE/FIELD BOOK: 206-1695/C195
THOMAS BROS.: 1268-B6

RETIREMENTS:
8" - VC - 700' - 1963
MH: 4X3, 4, 1963
4" LATERAL - I2- VC - 1963
4" LATERAL CONNECTION - I- VC - 1963
4" LATERAL REHAB - I- VC - 1963



SCALE
1" = 40'

C-21

SEWER AND WATER GROUP 758 CURTIS STREET			
STA. 1+00.00 TO STA. 9+00.00			
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 22 OF 44 SHEETS			
APPROVED FOR CITY ENGINEER	DATE	PROJECT ENGINEER	SEWER #B5
<i>Wendy Gambo</i>	12-21-12	LUIS SCHAAR	B-00365
DESCRIPTION	BY	APPROVED	DATE
ORIGINAL	ED/MN		
SUBMITTED BY			ASSOCIATE ENGINEER
MAHYAR NAVIZI			
PROJECT ENGINEER			
182-1749			
CCS27 COORDINATE			
6310407-1822444			
CCS83 COORDINATE			
CONTRACTOR	DATE STARTED	INSPECTOR	35372-22-D
	DATE COMPLETED		



MAP 5156

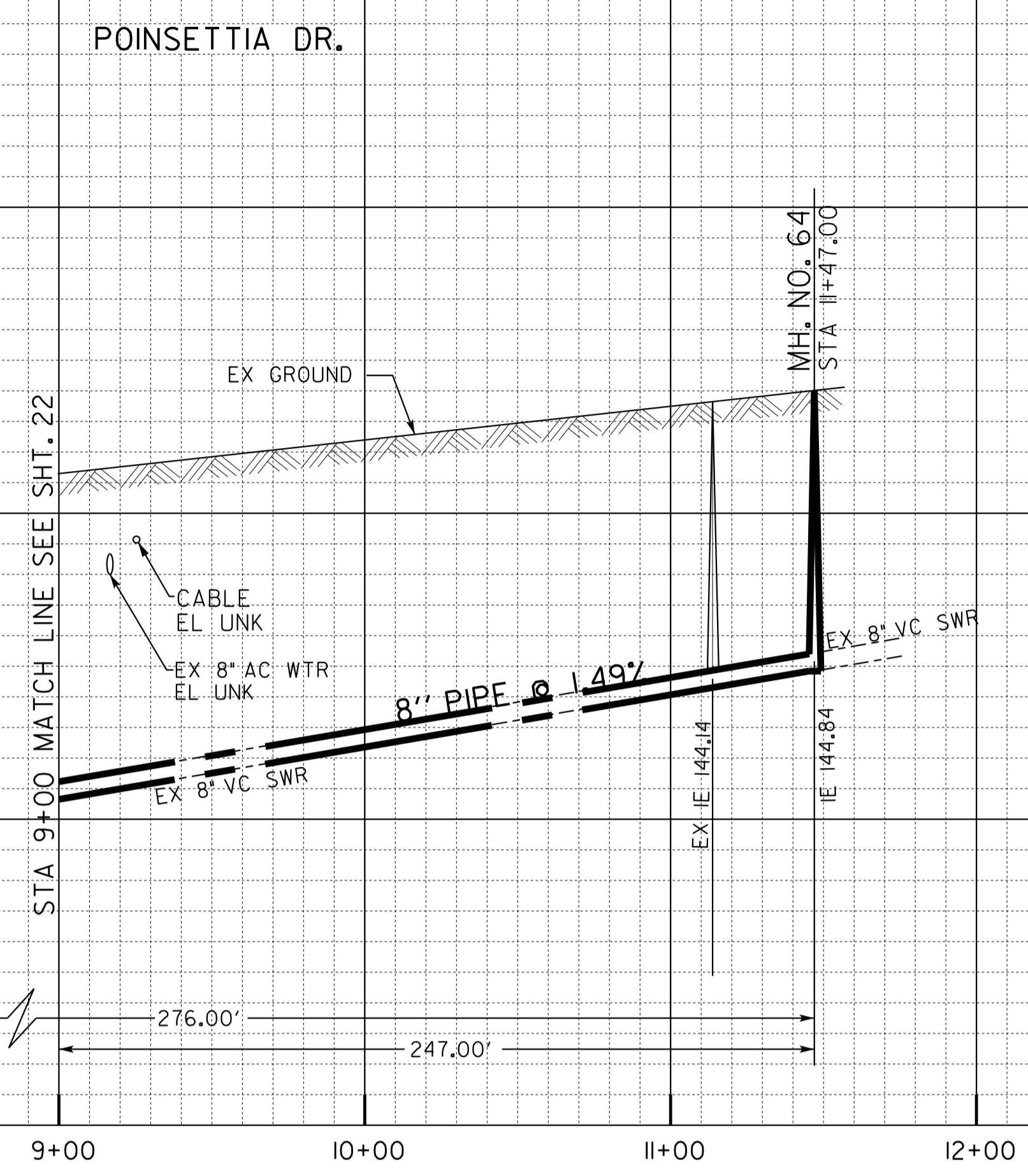
REHAB
MH. NO. 61
STA 4+23.00
(178)

MH. NO. 62
STA 5+58.00
(179)

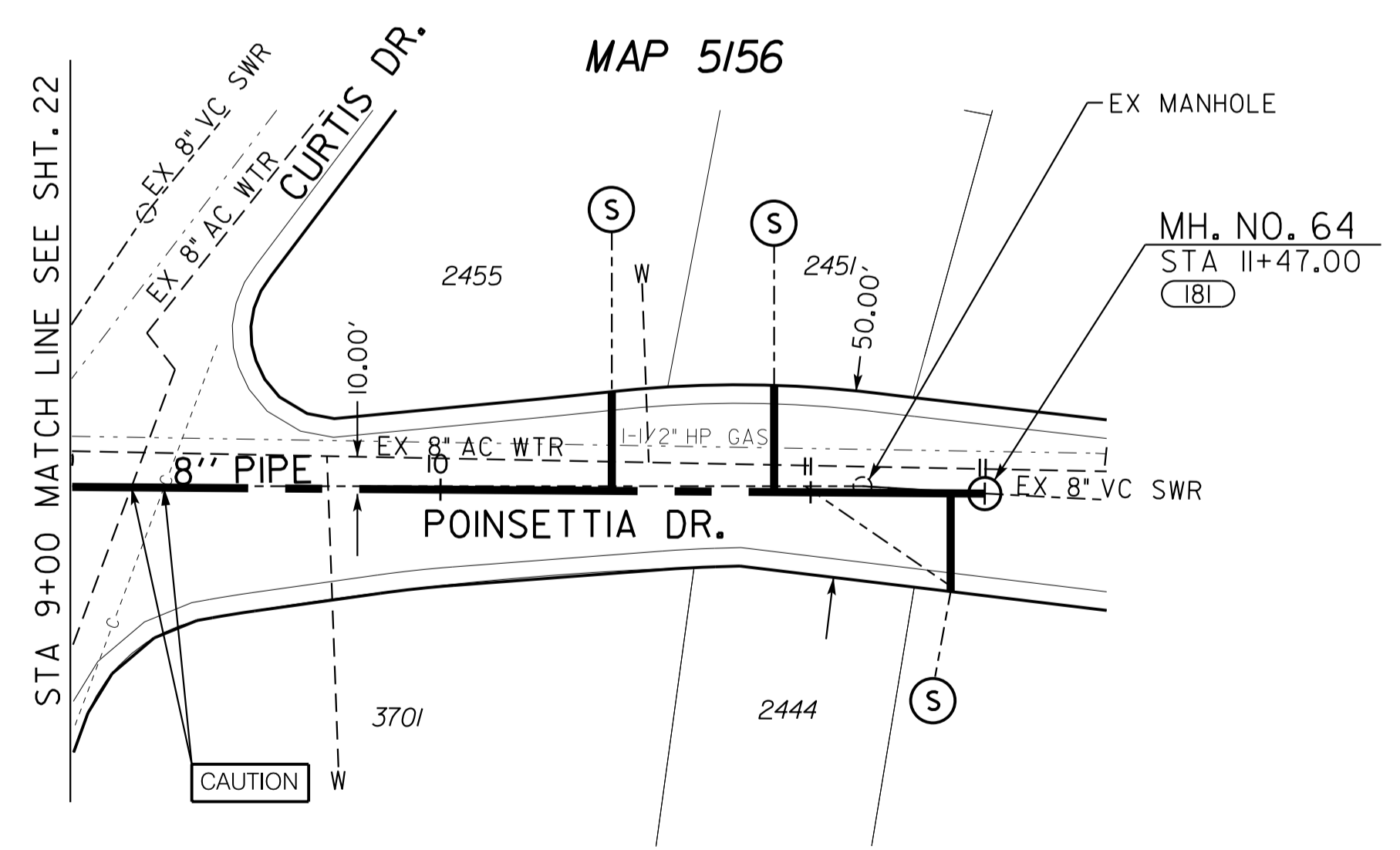
MH. NO. 14
STA 1+00.00
STA 32+40.69
(SEE SHT 6)
(116)

MH. NO. 60
STA 3+24.00
(177)

MH. NO. 63
STA 8+71.00
(180)

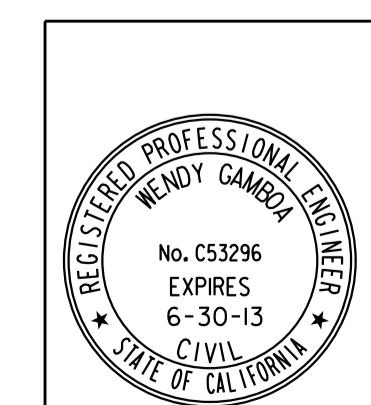
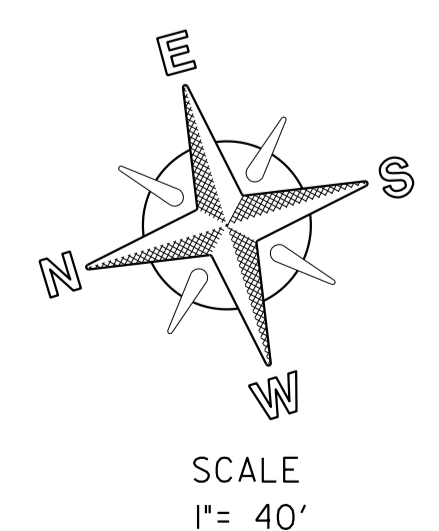


SCALE
1"=40' HORIZ.
1"=4' VERT.

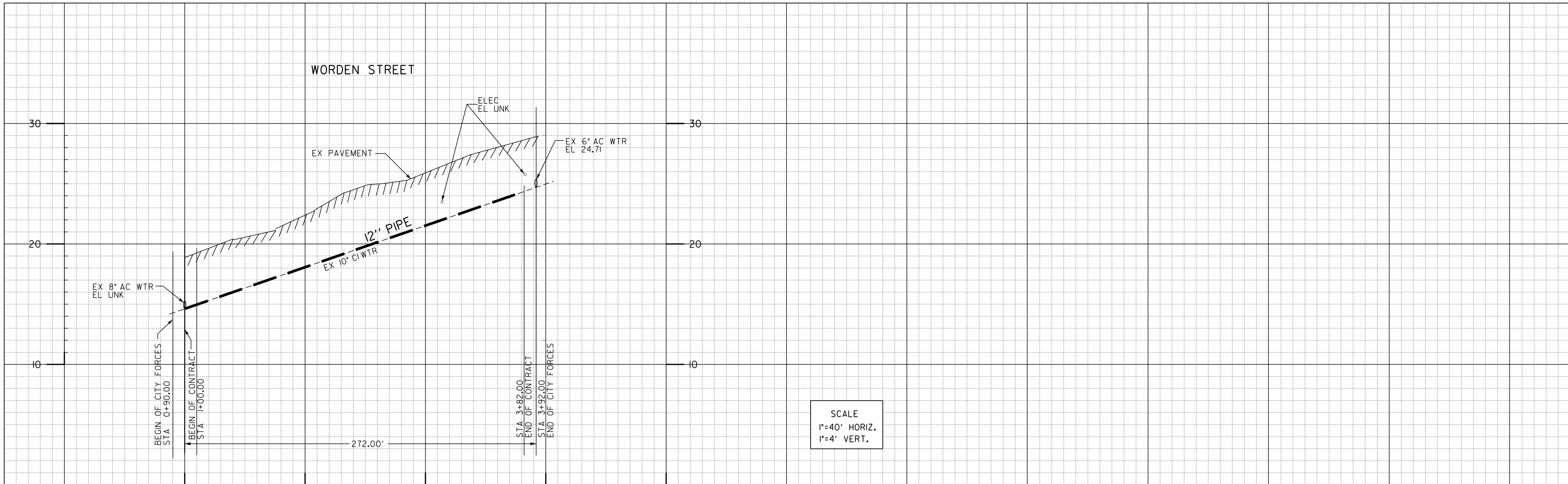


REFERENCE:
 WATER: 9778-8-D
 SEWER: 9778-D
 STORM DRAIN: N/A
 GAS: 7-298H
 ELECTRIC: N/A
 CABLE TV: N/A
 TELEPHONE: N/A
 IMPROVEMENTS: 9778-D
 100' SCALE/FIELD BOOK: 206-1695/C195
 THOMAS BROS.: 1268-B6

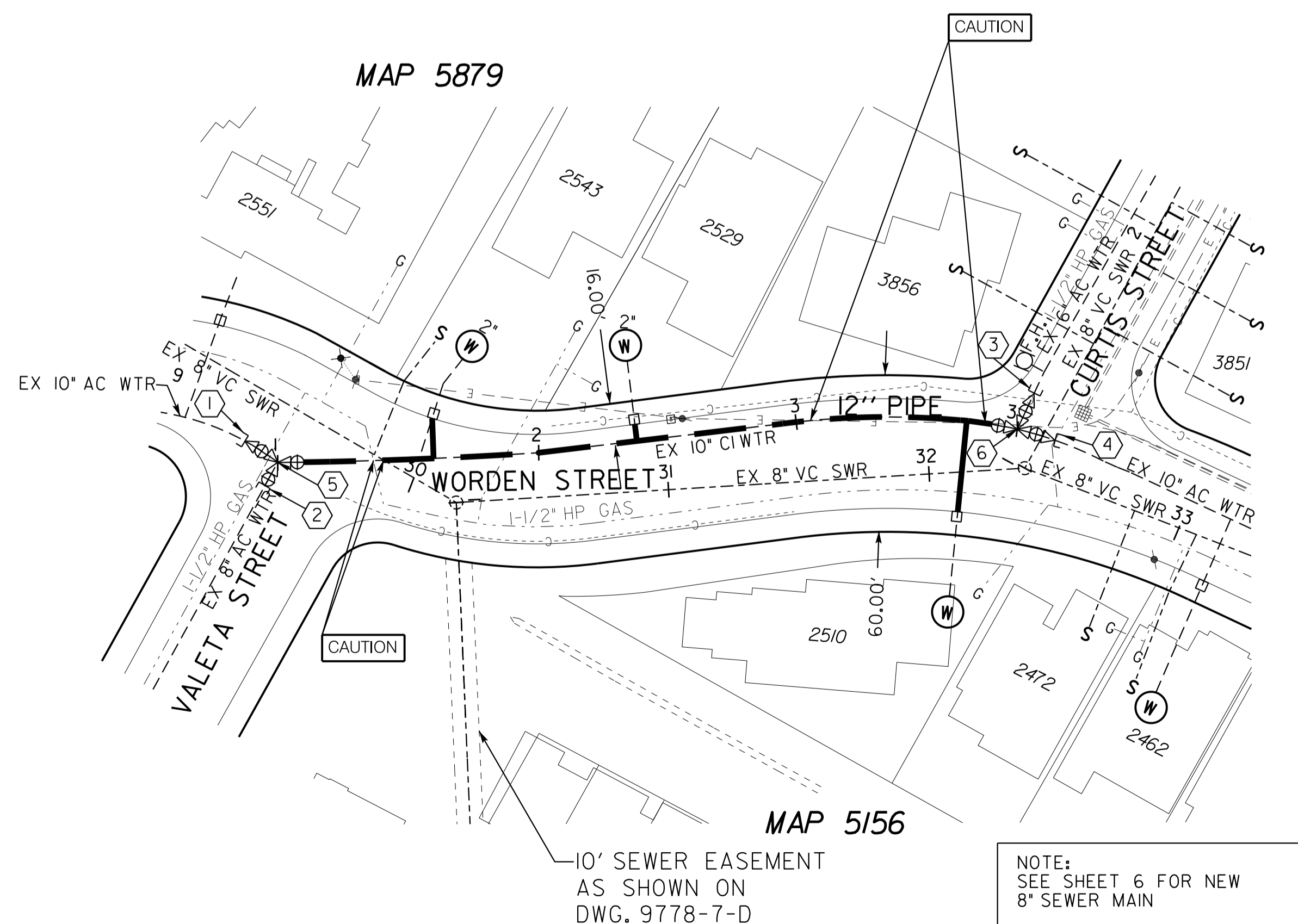
RETIREMENTS:
 8" - VC - 358.79' - 1963
 MH: 4X3, 2, 1963
 4" LATERAL - 3- VC - 1963



SEWER AND WATER GROUP 758				
POINSETTIA DR.				
STA. 9+00.00 TO STA. 11+47.00				
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 23 OF 44 SHEETS				
APPROVED FOR CITY ENGINEER	BY	DATE	SUBMITTED BY	
<i>[Signature]</i>		12-21-12	LUIS SCHAAR ASSOCIATE ENGINEER	
DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	ED/MN			
				MAHAR NAVIZI PROJECT ENGINEER
				182-1749
				CCS27 COORDINATE
				6310407-1822444 CCS83 COORDINATE
CONTRACTOR	DATE STARTED	INSPECTOR		35372-23-D



SCALE
1"=40' HORIZ.
1"=4' VERT.

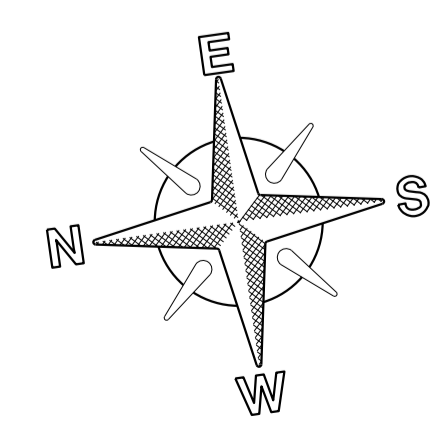


- ①
BY CITY FORCES
AHD OF CONTRACTOR
CUT AND PLUG EXIST 10" AC WATER
STA 1+00.00
RECONNECT AFTER NEW MAIN HAS BEEN ACCEPTED
- ②
BY CITY FORCES
AHD OF CONTRACTOR
CUT AND PLUG EXIST 8" AC WATER
STA 1+00.00 10' RT
RECONNECT AFTER NEW MAIN HAS BEEN ACCEPTED
- ③
BY CITY FORCES
AHD OF CONTRACTOR
CUT AND PLUG EXIST 6" AC WATER
STA 3+92.00 10' LT
RECONNECT AFTER NEW MAIN HAS BEEN ACCEPTED
- ④
BY CITY FORCES
AHD OF CONTRACTOR
CUT AND PLUG EXIST 10" AC WATER
STA 4+02.00
RECONNECT AFTER NEW MAIN HAS BEEN ACCEPTED
- ⑤
BY CONTRACTOR
FURNISH & INSTALL
STA 1+00.00
1-12"x8" TEE (F)
2-12" VALVE, AHD, BK, (F,MJ)
1-8" VALVE, RT (F,MJ)
1-12"x10" REDUCER, 3' BK, (M,J)
- ⑥
BY CONTRACTOR
FURNISH & INSTALL
STA 3+82.00
1-12"x8" TEE (F)
1-12" VALVE (F,MJ), BK
1-12" VALVE (F,MJ), AHD
1-8" VALVE (F,MJ), LT
1-12"x10" REDUCER 3' AHD (MJ),
1-8"x6" REDUCER 3' LT (MJ)

REFERENCE:
WATER: 9778-8-D
SEWER: 9778-D
STORM DRAIN: N/A
GAS: 7-298H
ELECTRIC: N/A
CABLE TV: N/A
TELEPHONE: N/A
IMPROVEMENTS: 9778-D
100' SCALE/FIELD BOOK: 206-1695/C195
THOMAS BROS.: 1268-B6

RETIREMENTS:
3/4" - WATER SERVICES - 2 - 1958
1-1/2" - WATER SERVICES - 1 - 1958

NOTE:
SEE SHEET 6 FOR NEW
8" SEWER MAIN



SEWER AND WATER GROUP 758 WORDEN STREET			
STA. 1+10.00 TO STA. 3+82.00			
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 24 OF 44 SHEETS			
APPROVED: FOR CITY ENGINEER	DATE 12-21-12	WATER WBS. B-00074	
DESCRIPTION ORIGINAL	BY ED/MN	APPROVED	DATE FILMED
SUBMITTED BY LUIS SCHAAR ASSOCIATE ENGINEER		CHECKED BY MAHYAR NAVIZI PROJECT ENGINEER	
210-1695 CCS27 COORDINATE		6256407-1850444 CCS83 COORDINATE	
CONTRACTOR		DATE STARTED	
INSPECTOR		DATE COMPLETED	
35372-24-D			

C-23

WORDEN STREET

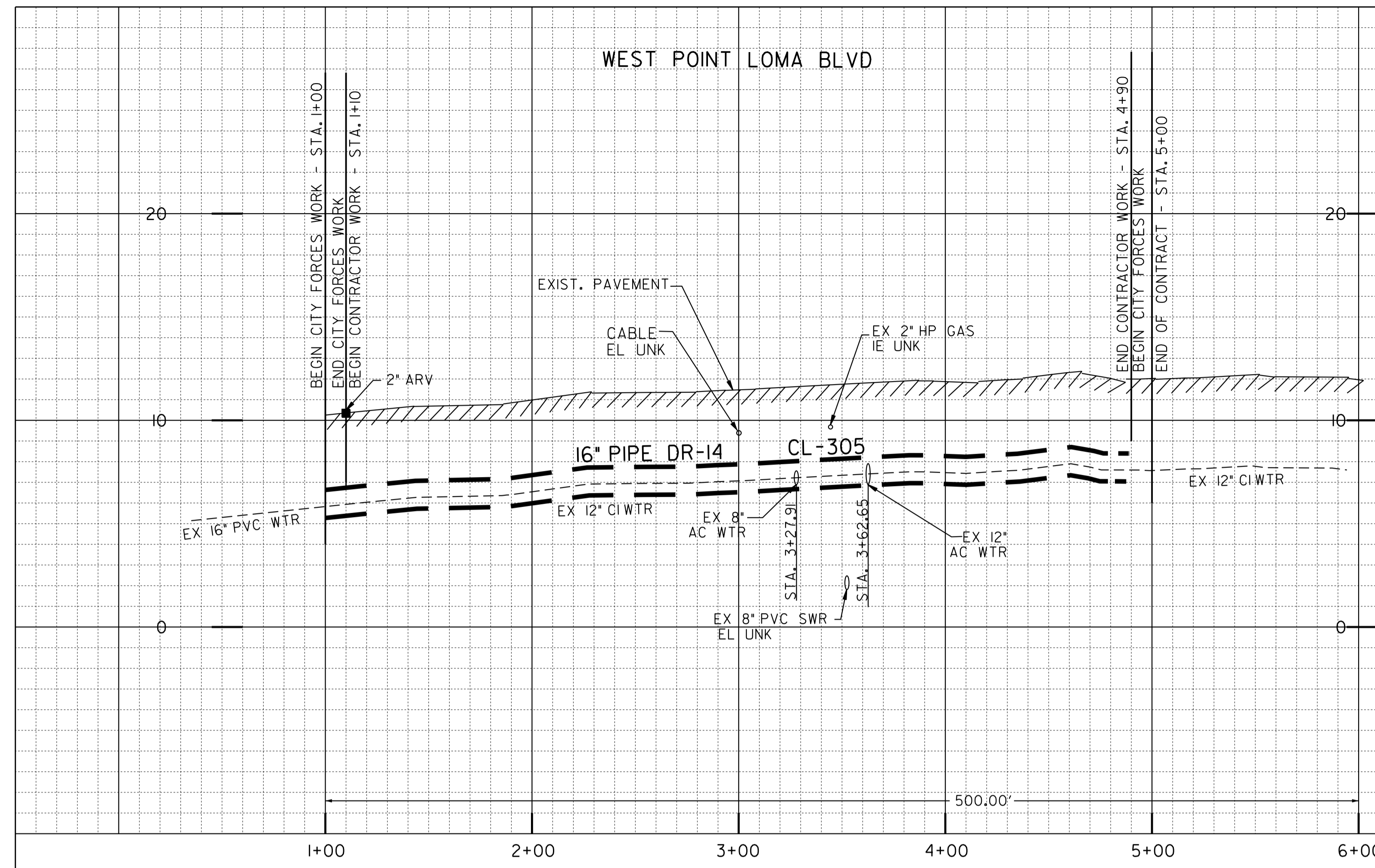
THRUST BLOCK TABLE

SHEET NO.	PIPE STATIONING	TYPE/ DIAM. OF PIPE	TYPE OF BLOCK	TYPE OF APPURTENANCE	DESIGN PRESSURE	TOTAL THRUST (lb)	ASSUMED SOIL CAPACITY	MINIMUM BEARING AREA (sq.ft.), SEE NOTE 3 BELOW OR VOLUME OF BLOCK (cu.ft.)
25	1+21.49	PVC 16"	THRUST	16"x12" TEE	109 LB/SQ. IN.	22392	1000 LB/SQ. FT.	22.4 SQ. FT.
25	1+44.82	PVC 16"	THRUST	16"x12" TEE	165 LB/SQ. IN.	33896	1000 LB/SQ. FT.	33.9 SQ. FT.
25	3+27.88	PVC 16"	THRUST	16"x8" TEE	165 LB/SQ. IN.	15933	1000 LB/SQ. FT.	15.9 SQ. FT.
25	3+62.65	PVC 16"	THRUST	16"x12" TEE	165 LB/SQ. IN.	33896	1000 LB/SQ. FT.	33.9 SQ. FT.
25	4+69.51	PVC 16"	THRUST	16"x12" TEE	165 LB/SQ. IN.	21790	1000 LB/SQ. FT.	21.8 SQ. FT.

* The specific weight of concrete is 140 lb/cu.ft.
Safety Factor = 1.5

- NOTES:
- FOR ADDITIONAL THRUST BLOCKS, ANCHOR BLOCKS, DETAILS AND NOTES SEE WT-01.
 - REFER TO SPECIFICATIONS SECTION 306-1.2.14 FOR ADDITIONAL REQUIREMENTS.
 - FOR ESTIMATING THE QUANTITY FOR THRUST BLOCKS, THE DEPTH OF THE THRUST BLOCKS SHALL BE HALF OF THE TRENCH WIDTH PLUS 12" EMBEDMENT.

SCALE
1"=40' HORIZ.
1"=4' VERT.



HIGHLINE NOTE:
CITY FORCES TO HIGHLINE WEST POINT LOMA BLVD. FROM STA. 1+00 TO STA. 5+00
CITY FORCES TO FURNISH HIGHLINE MATERIALS AND TRANSFER SERVICES.

BY CITY FORCES AHD OF CONTRACTOR
① STA. 1+00 TEMP. CUT & PLUG EX. 16" PVC WTR RECONNECT AFTER NEW MAIN HAS BEEN ACCEPTED (186)

BY CONTRACTOR FURNISH & INSTALL
② STA. 1+15 1- 2" AIR & VACUUM VALVE ASSEMBLY (187)

BY CONTRACTOR FURNISH & INSTALL
③ STA. 1+21.49 1- 16"x12" TEE (F, F, MJ) 1- 16" BUTTERFLY VALVE (F, MJ) BK 1- 12" GATE VALVE (F, MJ) RT (188)

REFERENCE:
WATER: 10694-14D, 12711-02-D, 12641-03-D
STORM DRAIN: 17471-2D
GAS: 7-768A
ELECTRIC: 214-1698 ; 214-1701
TELEPHONE: te0204ad.dgn, te0204ba.dgn

BY CONTRACTOR FURNISH & INSTALL
④ STA. 1+44.82 1- 16"x12" TEE (F) 1- 16" "RED" BUTTERFLY VALVE (F, MJ) BK 1- 16" BUTTERFLY VALVE (F, MJ) AHD 1- 12" GATE VALVE (F, MJ) RT (189)

BY CONTRACTOR FURNISH & INSTALL
⑤ STA. 3+27.91 1- 16"x8" TEE (MJ, F, F) 1- 16" BUTTERFLY VALVE (F, MJ) BK 1- 8" GATE VALVE (F, MJ) LT 1- 8" 11.25" BEND (MJ) 62' LT 62' - 8" PIPE LT (190)

FIELD BOOK: C18S
100' SCALE: 214-1695
THOMAS BROS.: 1268-C5
HGL: POINT LOMA (260) UNIVERSITY HEIGHTS (390)

RETIREMENTS:
12" - CI - 400' - 1967
2" WATER SERVICE - 1 - CU

BY CITY FORCES AHD OF CONTRACTOR
⑥ STA. 3+27.91, 72' LT TEMP. CUT & PLUG EX. 8" AC WTR RECONNECT AFTER NEW MAIN HAS BEEN ACCEPTED (191)

BY CONTRACTOR FURNISH & INSTALL
⑦ STA. 3+62.65 1- 16"x12" TEE (MJ, F, F) 1- 16" BUTTERFLY VALVE (F, MJ) AHD 1- 12" GATE VALVE (F, MJ) RT 15' - 12" PIPE RT (192)

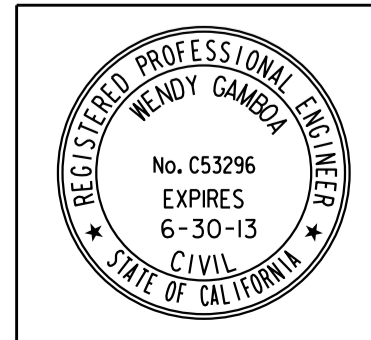
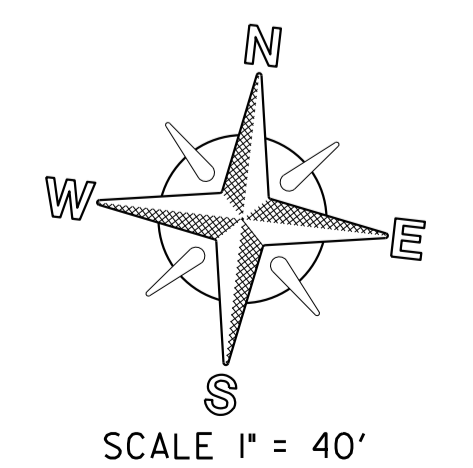
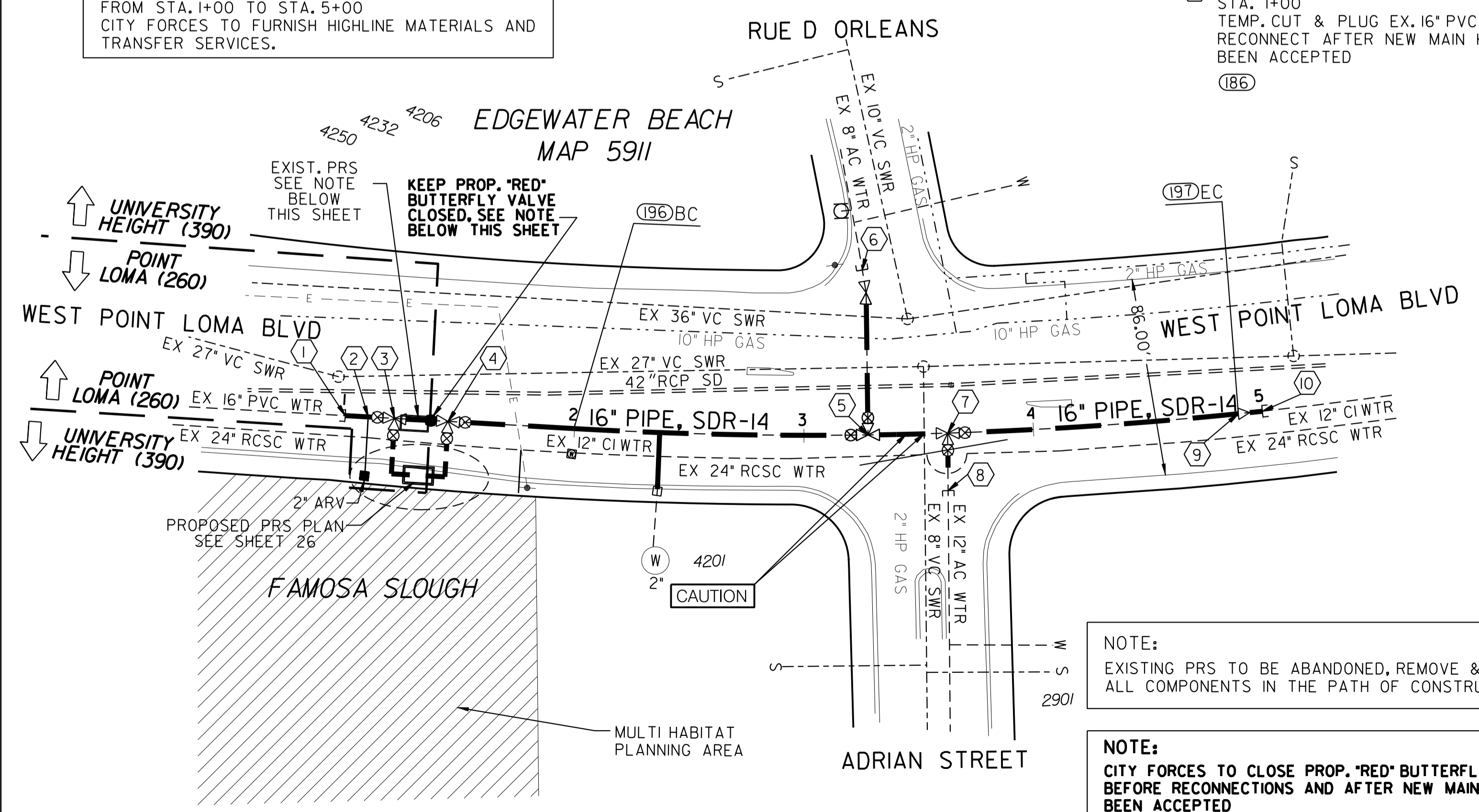
BY CITY FORCES FURNISH & INSTALL
⑧ STA. 3+62.65, 25' RT TEMP. CUT & PLUG EX. 12" AC WTR RECONNECT AFTER NEW MAIN HAS BEEN ACCEPTED (193)

BY CONTRACTOR FURNISH & INSTALL
⑨ STA. 4+69.51 1- 16"x12" REDUCER. (MJ) (194)

BY CITY FORCES AHD OF CONTRACTOR
⑩ STA. 5+00 TEMP. CUT & PLUG EX. 12" CI WTR RECONNECT AFTER NEW MAIN HAS BEEN ACCEPTED (195)

NOTE:
EXISTING PRS TO BE ABANDONED, REMOVE & SALVAGE ALL COMPONENTS IN THE PATH OF CONSTRUCTION.

NOTE:
CITY FORCES TO CLOSE PROP. "RED" BUTTERFLY VALVE BEFORE RECONNECTIONS AND AFTER NEW MAIN HAS BEEN ACCEPTED



SEWER & WATER GROUP 758
WEST POINT LOMA BLVD
STA 1+00 TO STA 5+00

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS DEPARTMENT
SHEET 25 OF 44 SHEETS

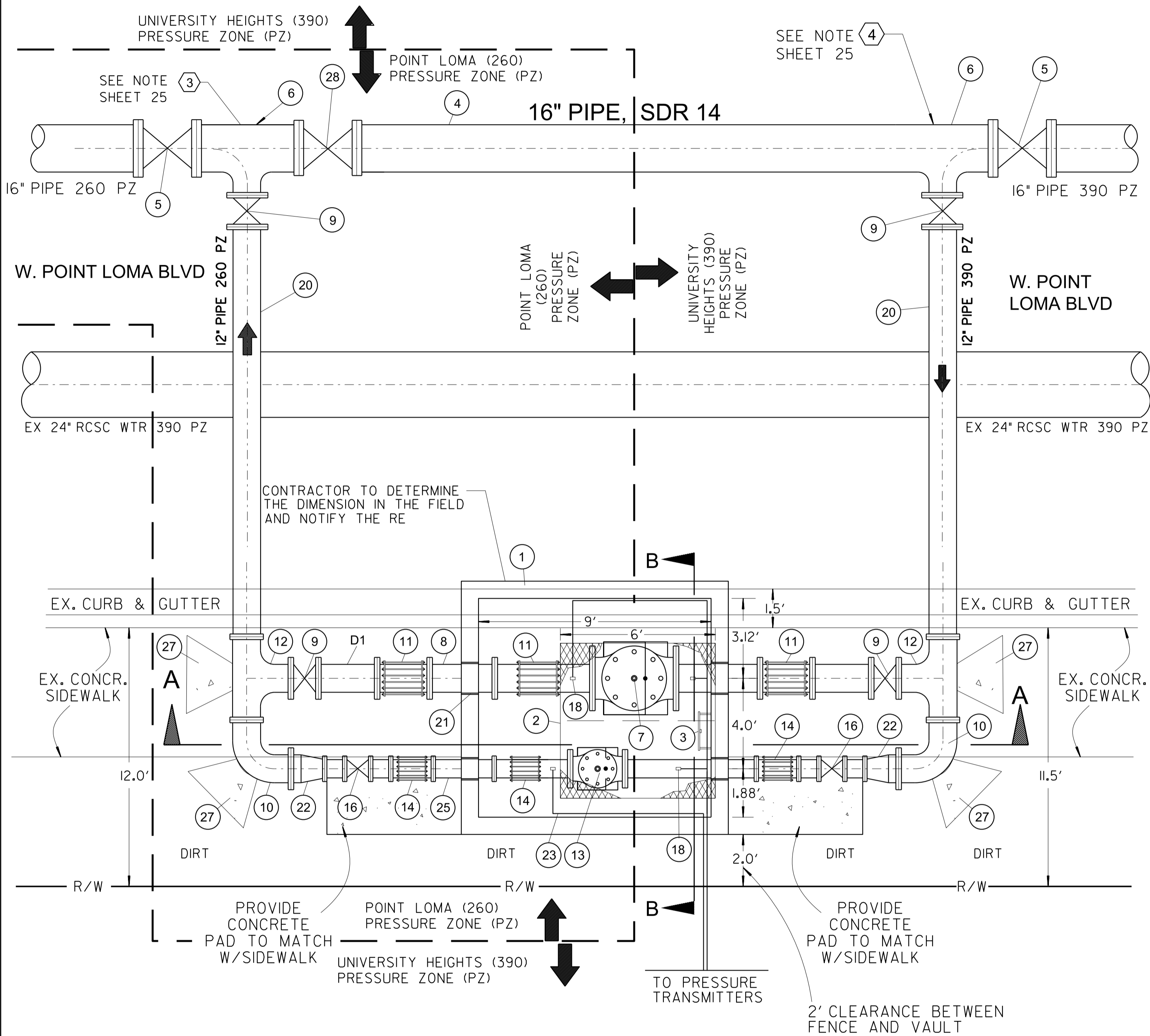
APPROVED: <i>[Signature]</i>	DATE: 12-21-12	FOR CITY ENGINEER	DATE
DESCRIPTION	BY	APPROVED	DATE
ORIGINAL	FH/ED		

CONTRACTOR: _____ DATE STARTED: _____
INSPECTOR: _____ DATE COMPLETED: _____

WATER WBS: B-00074
SUBMITTED BY: LUIS SCHAAR, ASSOCIATE ENGINEER
CHECKED BY: MANIAR NAVIZI, PROJECT ENGINEER
214-1695
6256407-1854444
35372-25-D

WEST POINT LOMA BLVD

C-24



PROPOSED PRS PLAN
SCALE: NONE

DESCRIPTION

- 1 — 10'x9' (INSIDE DIMENSION) PRECAST CONCRETE VAULT, CONTRACTOR TO PROVIDE SHOP DRAWING PRIOR TO MANUFACTURING.
- 2 — ALUMINUM CHECKER PLATE, 8'x6' DUAL-LEAF ACCESS HATCH BILCO JD, SPRING ASSISTED, HINGED COVER, H20 RATED.
- 3 — FRP LADDER W/LADDER UP POST (2 EA), SEE DETAIL 6, SHEET 27.
- 4 — 16" PVC-SDR-14, CL 305.
- 5 — 16" BUTTERFLY VALVE (2 EA).
- 6 — 16"x12" TEE (2 EA).
- 7 — 12" PRESSURE REDUCING VALVE, FLANGED W/VALVE POSITION INDICATOR.
- 8 — 12" DI FLG SPOOL FLG x P.E. (2 EA).
- 9 — 12" GATE VALVE (4 EA).
- 10 — 12" - 90° BEND (2 EA) (FLG).
- 11 — 12" FLANGES CONNECTION RESTRAINTS- SEE DETAIL 1, SHEET 27.
- 12 — 12"x12" TEE (2 EA).
- 13 — 8" PRESSURE REDUCING VALVE, FLANGED W/VALVE POSITION INDICATOR.
- 14 — 8" FLANGES CONNECTION RESTRAINTS - SEE DETAIL 1, SHEET 27.
- 15 — NOT USED.
- 16 — 8" GATE VALVE (2 EA).
- 17 — ADJUSTABLE PIPE SUPPORTS (4 EA) - SEE DETAIL 5, SHEET 27.
- 18 — PRESSURE GAUGE OUTLET FOR 3/8" PRESSURE TUBING, SEE DETAIL 2, SHEET 27.
- 19 — VALVE - VALVE WELL TYPE "A".
- 20 — 12" PVC C-900, CL 235.
- 21 — WALL PENETRATION, SEE DETAIL 3, SHEET 27.
- 22 — 12"x8" REDUCER (2 EA) (MJ)
- 23 — 3/8" COPPER TUBING (WALL MOUNTED).
- 24 — NOT USED.
- 25 — 8" DI FLG SPOOL (2 EA) (FLG x PE).
- 26 — NOT USED.
- 27 — THRUST BLOCK.
- 28 — 16" BUTTERFLY VALVE, NORMALLY CLOSED VALVE (1 EA), (F, MJ).

CORROSION CONTROL NOTES

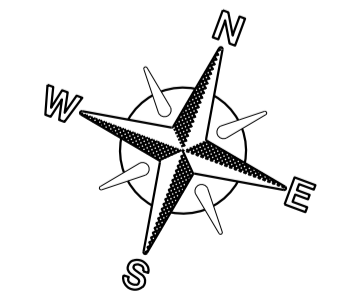
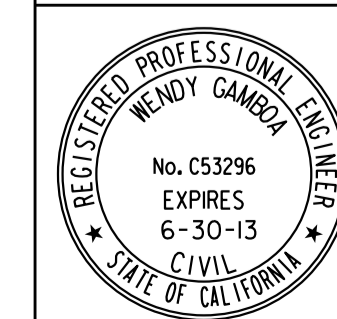
1. WAX TAPE COATING
 - A. ALL BURIED NON-DIELECTRICALLY COATED PIPE SECTIONS, NON-DIELECTRICALLY COATED PIPE SPECIALS AND BURIED INSULATING FLANGE KITS SHALL BE WAX TAPE COATED.
 - B. WAX TAPE COATING SHALL BE IN ACCORDANCE WITH AWWA C217. THE FLANGE AND BOLT SURFACES SHALL BE PRIME COATED WITH A BLEND OF PETROLATUM, PLASTICIZER, INERT FILLERS AND CORROSION INHIBITOR A PASTE-LIKE CONSISTENCY. THE PRIMER SHALL BE TRENTON OR APPROVED EQUAL.
 - C. FLANGE COVERING MATERIAL SHALL BE A SYNTHETIC FELT TAPE SATURATED WITH A BLEND OF PETROLATUM, PLASTICIZERS AND CORROSION INHIBITORS THAT IS EASILY FORMABLE OVER IRREGULAR SURFACES. THE WAX SHALL BE TRENTON NO. 1 OR APPROVED EQUAL.
 - D. THE PRIMED AND WAX-TAPE WRAPPED FLANGE SHALL BE WRAPPED WITH A PLASTIC TAPE COVERING CONSISTING OF THREE (3) LAYERS OF 50 GAUGE OR 10 MIL, POLYVINYLIDENE CHLORIDE HIGH CLING MEMBRANES WOUND TOGETHER AS A SINGLE SHEET. THE OUTER COVERING SHALL BE TRENTON OR APPROVED EQUAL.
2. INSULATING FLANGE KITS
 - A. INSULATING FLANGE GASKETS SHALL BE TYPE EG10 GLASS MATERIAL WITH A RECTANGULAR NITILE O-RING SEAL FOR OPERATING BETWEEN 20-DEG. AND 150-DEG. FAHRENHEIT. GASKETS SHALL BE SUITABLE FOR TEMPERATURE AND PRESSURE RATING OF THE PIPING SYSTEM IN WHICH THEY ARE INSTALLED.
 - B. INSULATING SLEEVES SHALL BE 1/32-INCH THICK TUBE, FULL LENGTH, G10 GLASS FOR OPERATING BETWEEN 2-DEG/AMD 15-DEG. FAHRENHEIT. INSULATING FLANGE WASHERS ARE TO BE 1/8-INCH THICK. FOR INSTALLATIONS AT THREADED VALVE FLANGES, THE SLEEVES SHALL BE HALF LENGTH. OR APPROVED EQUAL.
 - C. INSULATING WASHERS SHALL BE 1/8-INCH THICK, G10 GLASS FOR OPERATION BETWEEN 20-DEG. AND 150-DEG. FAHRENHEIT.
 - D. STEEL WASHERS FOR INSULATING FLANGE KITS SHALL BE 1/8-INCH THICK CADMIUM PLATED STEEL TO BE PLACED BETWEEN THE NUT AND INSULATING WASHER.
 - E. INSULATING FLANGES SHALL BE INSPECTED, TESTED AND APPROVED BY THE CITY'S CORROSION ENGINEER (619) 235-1940 BEFORE THE WAX TAPE IS APPLIED.
 - F. NO ELECTRICALLY CONDUCTIVE PIGMENTS OR PAINTS SHALL BE USED EITHER INTERNALLY OR EXTERNALLY ON THE BOLTS, WASHERS OR FLANGES.

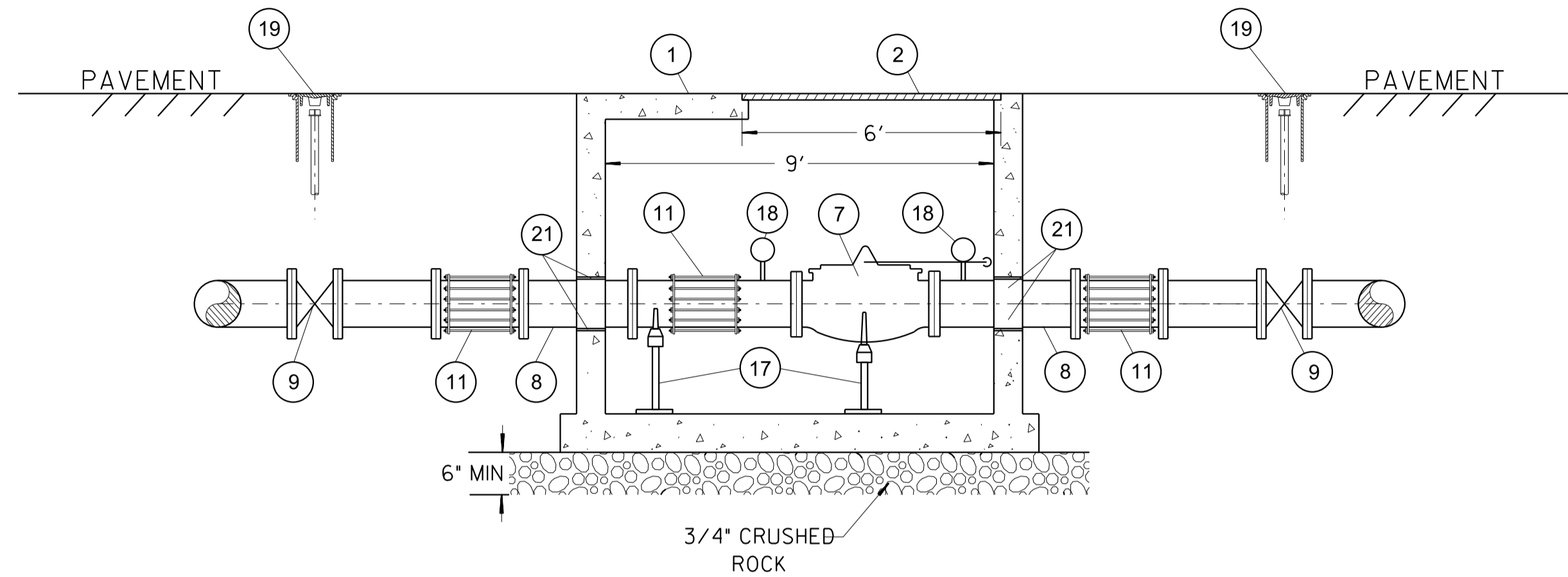
NOTES TO CONTRACTOR:

1. BEFORE TESTING CITY FORCES TO VERIFY NORMALLY CLOSED VALVE.
2. R.E. TO CERTIFY THAT RED VALVE IS CLOSED AND VALVE CAP PAINTED RED.
3. BURIED VALVES SHALL BE PROVIDED WITH 2-INCH SQ. OPERATING NUT AND VALVE WELL PER SDW-153, WV-04, WV-01.
4. VALVES AND APPURTENANCES SHALL BE DESIGNED FOR A MINIMUM WORKING PRESSURE OF 305 PSI.
5. EXPOSED PIPING IN VAULT SHALL HAVE A MINIMUM DI THICKNESS OF 1/4 INCH.
6. WATER PIPES, 16" & 12" VALVES & FITTINGS ALONG PROPOSED 16" WATER MAIN BEFORE CURB LINE SHALL BE PAID PER SEPARATE BID ITEMS. ALL OTHER WORK BETWEEN CURBLINE AND CITY'S R/W LINE FOR THE PROPOSED PRESSURE REDUCING STATION SHALL BE PAID PER SEPARATE BID ITEM FOR PRESSURE REDUCING STATION.
7. CONTRACTOR SHALL REMOVE AND DISPOSE MANHOLE COVER AND PIPES, AND SALVAGE ALL PRS INSTRUMENTS INSIDE EXISTING PRS VAULT. CONTRACTOR TO NOTIFY PUD WATER OPS, (619) 527-7602, FORTY EIGHT (48) HOURS IN ADVANCE OF ABANDONMENT TO OBTAIN DELIVERY LOCATION FOR SALVAGED PRS INSTRUMENTS.
8. EXISTING PRESSURE REDUCING CONCRETE VAULT TO BE DEMOLISHED
9. PRS ABANDONMENT SHALL BE PAID PER SEPARATE BID ITEM.
10. PROVIDE A NEW 12" AND 8" CLA-VAL (1 EA) PRESSURE REDUCING CONTROL VALVES, WITH CRD PILOT CONTROL AND VALVE STEAM INDICATOR, CHECK FEATURE, AND FLOW MONITORING KIT (INCLUDING: X117D VPT. DPT AND 131 VF FLOW MODULE)
11. INSTALL CRD ON THE RIGHT SIDE (FACING SOUTHEAST)
12. PROVIDE SUBMITTAL FOR NEW VALVE AND ACCESSORIES FOR CITY APPROVAL. CLA-VAL REPRESENTATIVE TO ADJUST SET POINTS AND WATER OPS. TO CERTIFY SETTINGS.
13. CONCRETE FLATTOP DESIGNED TO SUPPORT MAXIMUM LOAD FROM HS-20 HIGHWAY LOADING.
14. CONCRETE STRUCTURE SHALL BE DESIGNED PER ASTM C-857 AND C-858 UNDERGROUND PRE-CAST CONCRETE UTILITY STRUCTURES. ALL CONCRETE SHALL HAVE A MINIMUM OF 28 DAYS COMPRESSIVE STRENGTH OF 4,000 PSI. ALL REINFORCING STEEL SHALL BE PER ASTM A-615 DEFORMED BARS WITH MINIMUM YIELD STRENGTH OF 60,000 PSI.

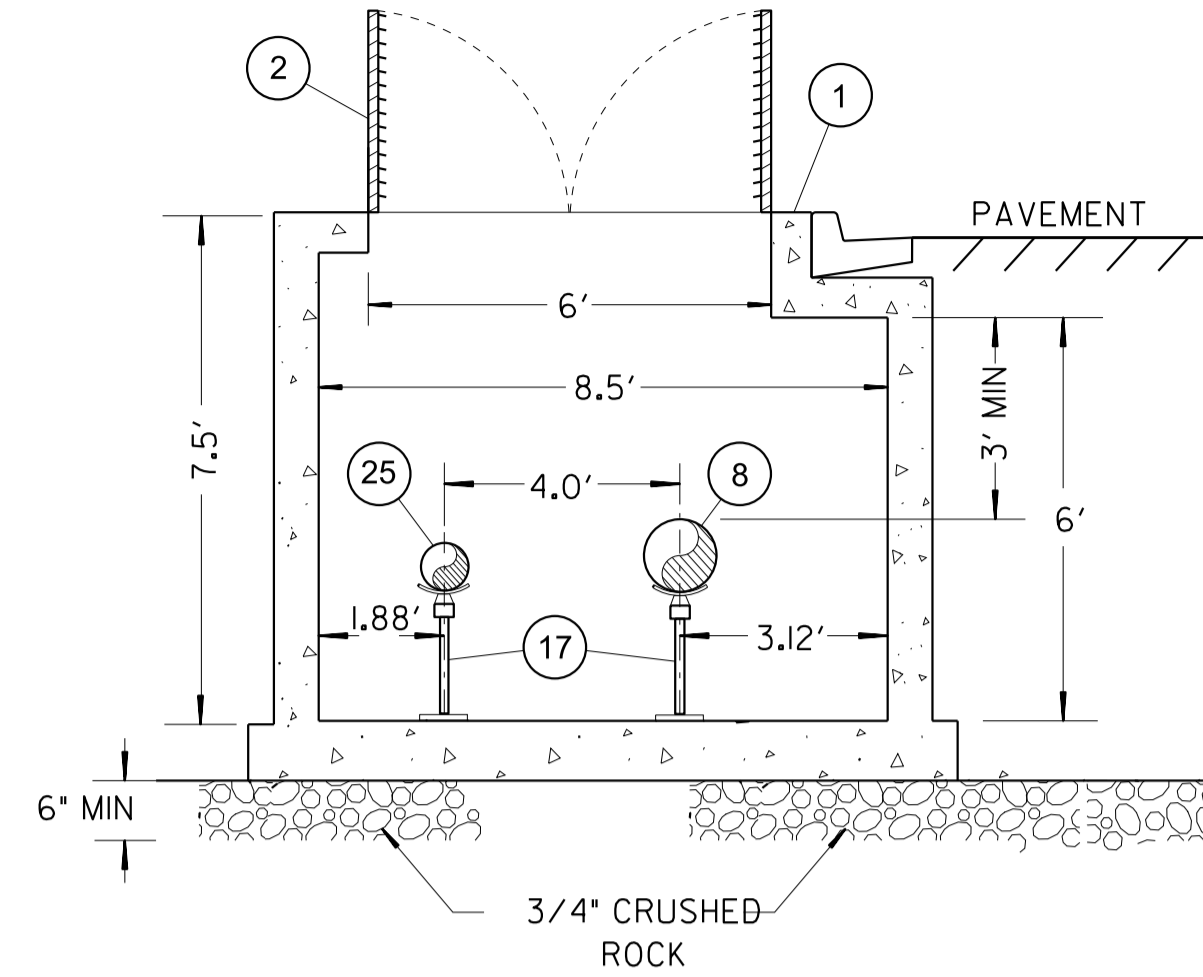
C-25

SEWER & WATER GROUP 758			
PRESSURE REDUCING STATION DETAIL			
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 26 OF 44 SHEETS			WATER WBS B-00074
APPROVED FOR CITY ENGINEER	DATE		SUBMITTED BY
<i>[Signature]</i>	12-21-12		LUIS SCHAAR ASSOCIATE ENGINEER
DESCRIPTION	BY	APPROVED	DATE
ORIGINAL	FH/ED		
CHECKED BY			MAHYAR NAVZI PROJECT ENGINEER
			214-1695 CC527 COORDINATE
			6256407-1854444 CC583 COORDINATE
CONTRACTOR	DATE STARTED	35372-26-D	
INSPECTOR	DATE COMPLETED		

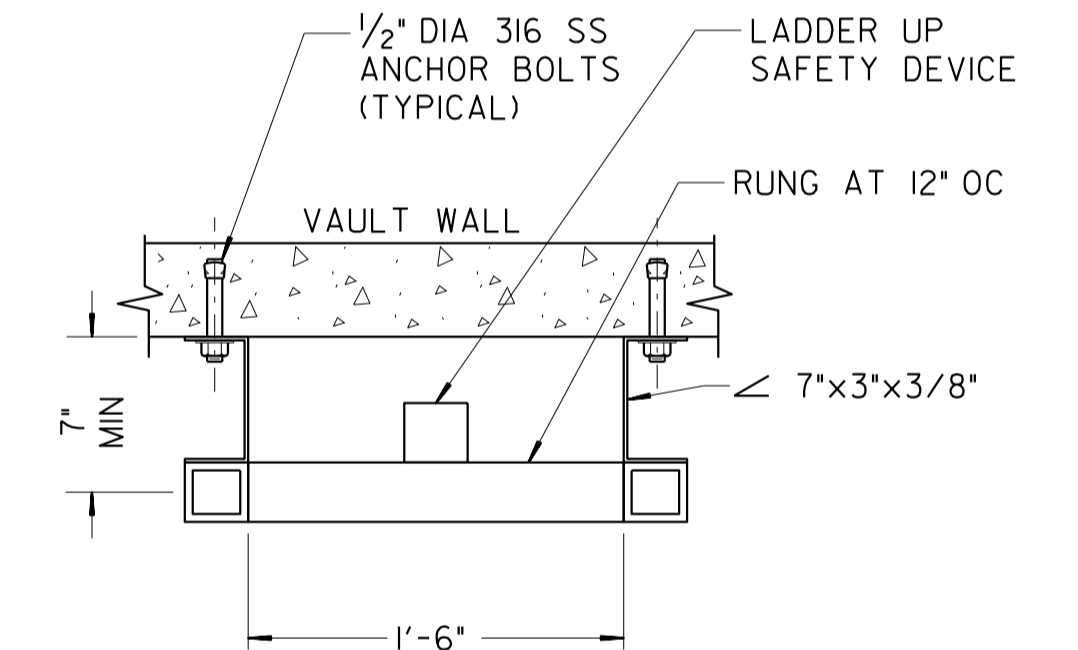
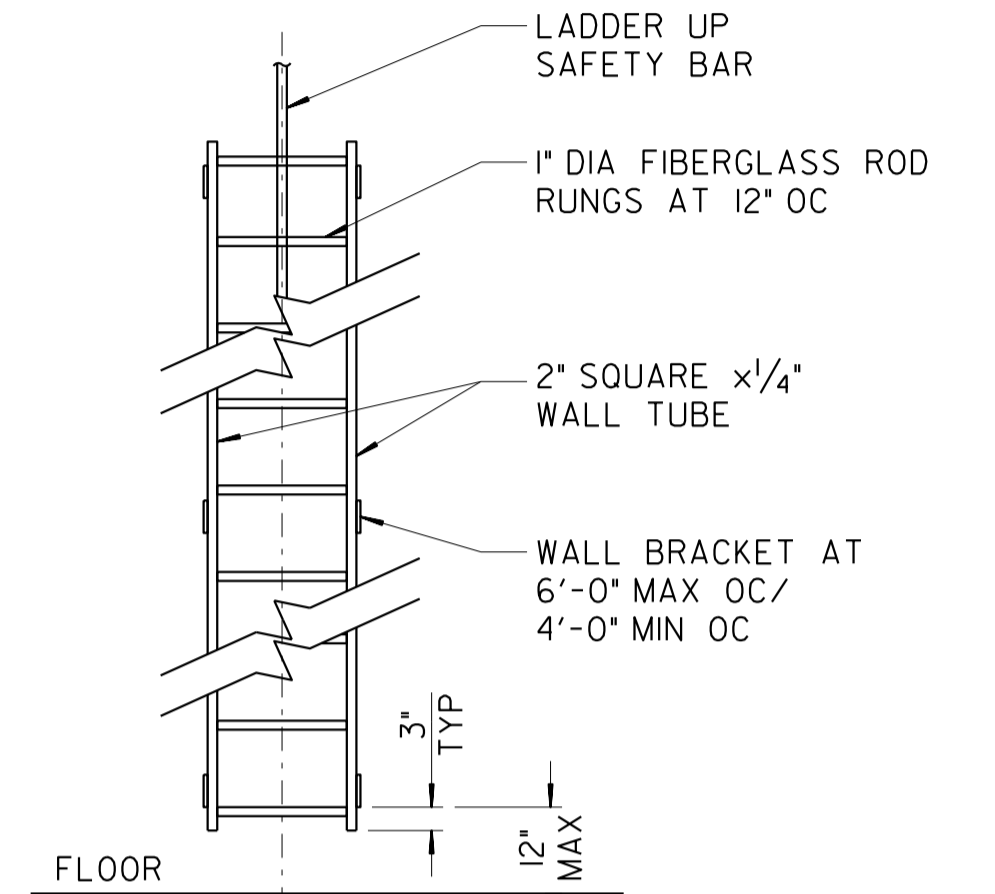




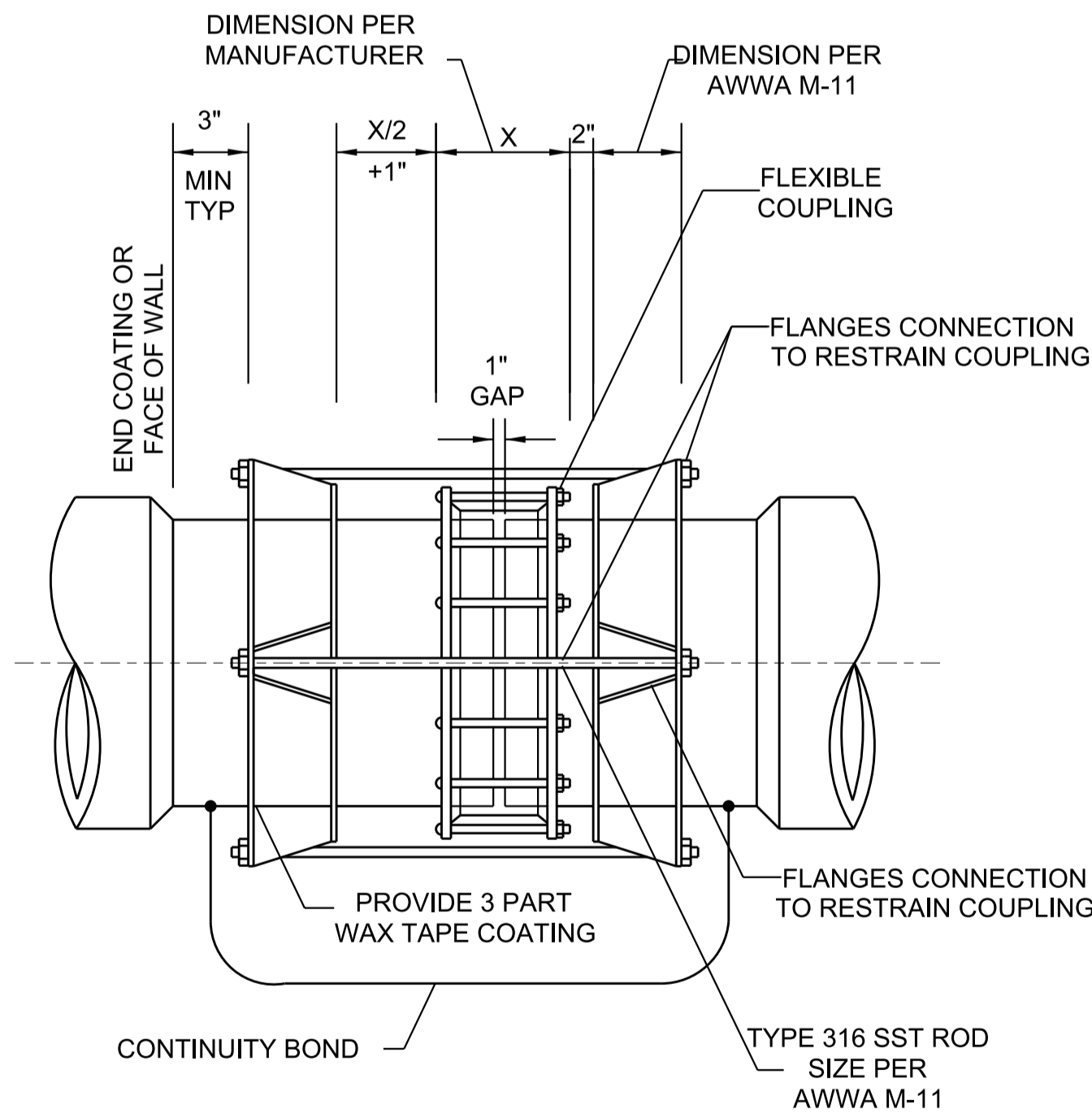
SECTION A-A
SCALE: NONE



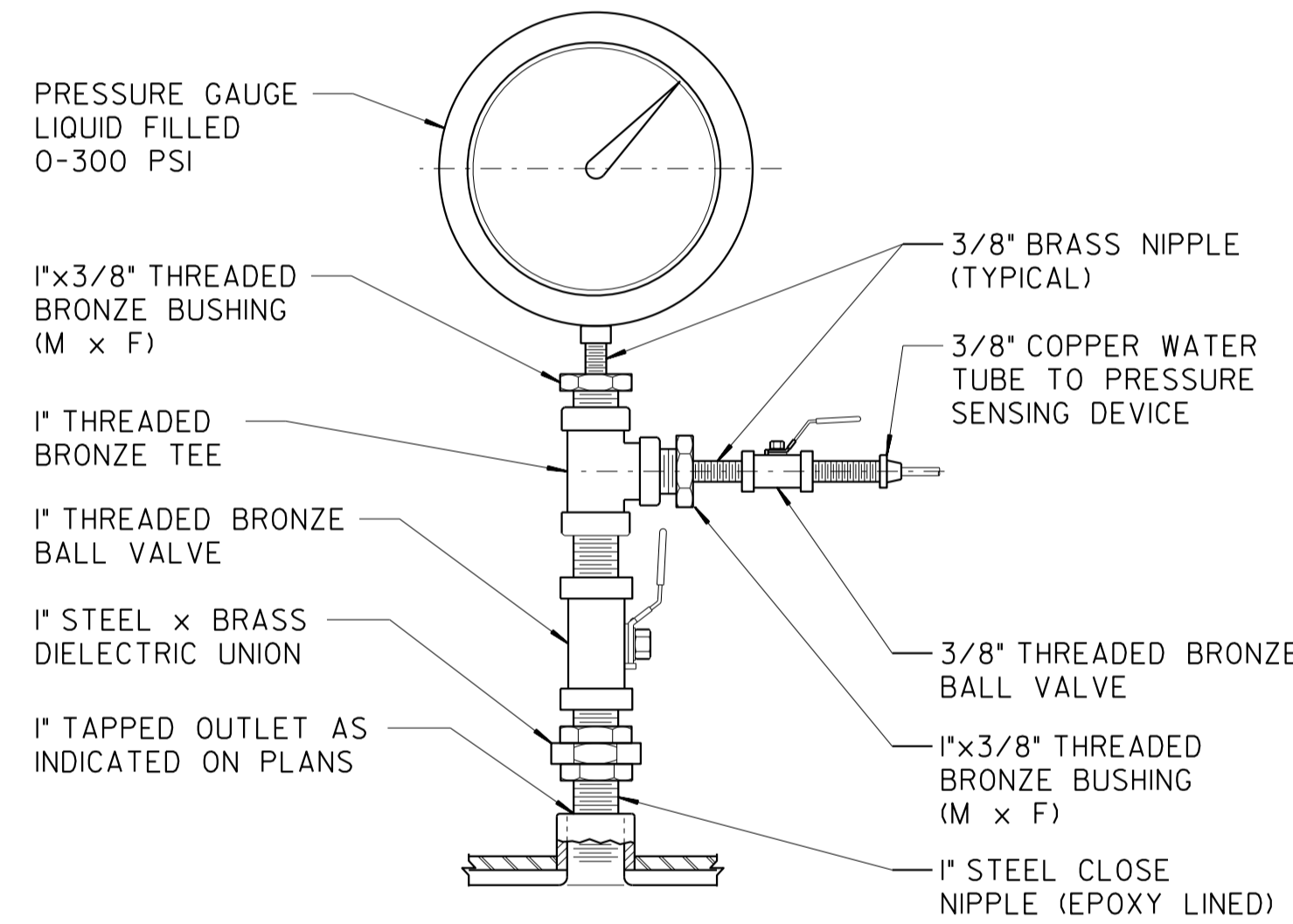
SECTION B-B
SCALE: NONE



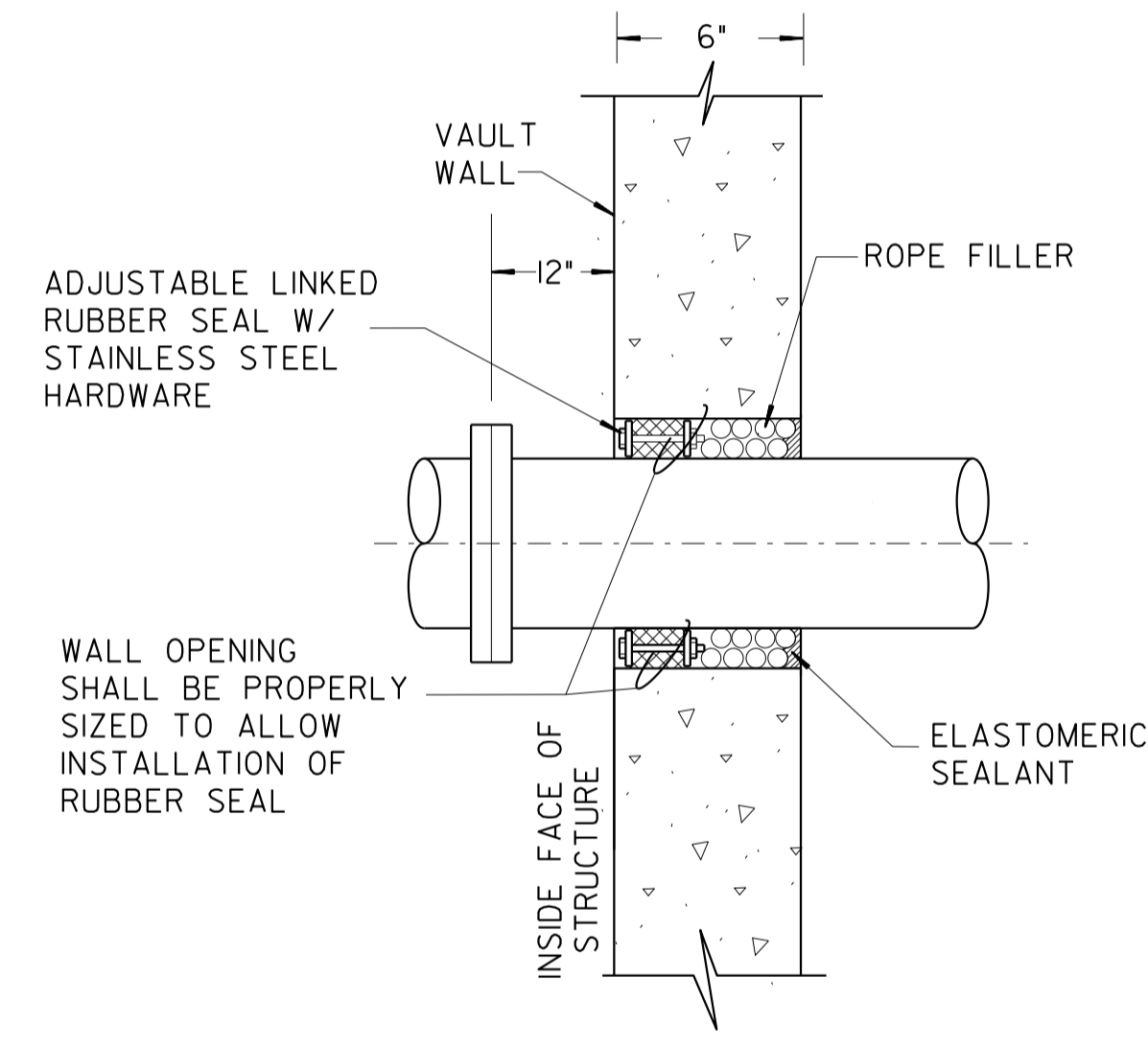
DETAIL 6
FIBERGLASS REINFORCED PLASTER LADDER
N.T.S.



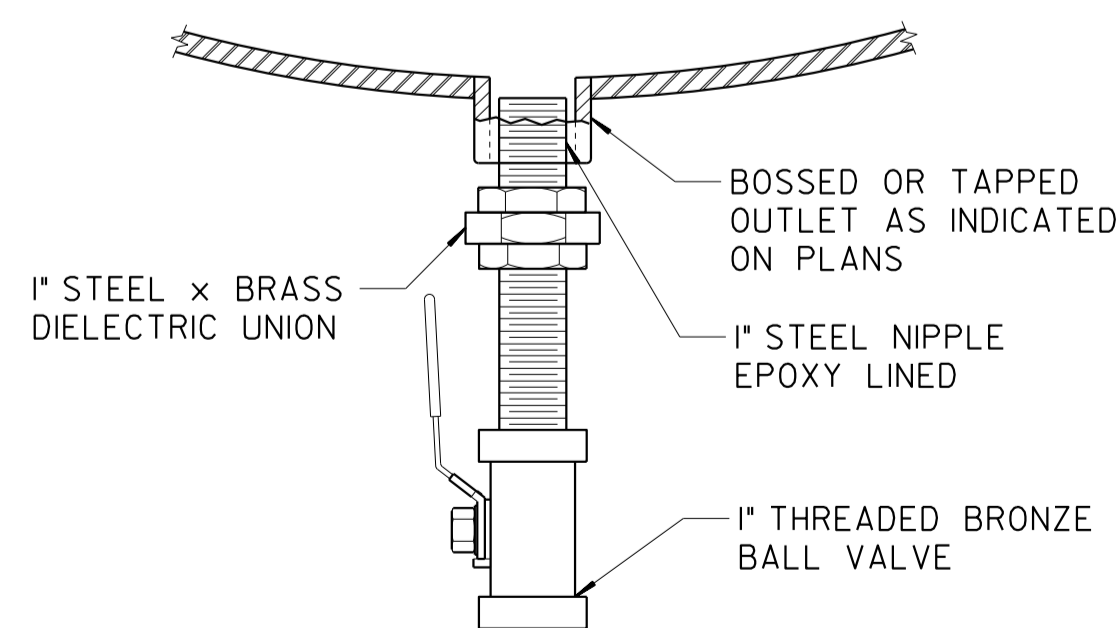
DETAIL 1
FLEXIBLE COUPLING W/ FLANGES CONNECTION
N.T.S.



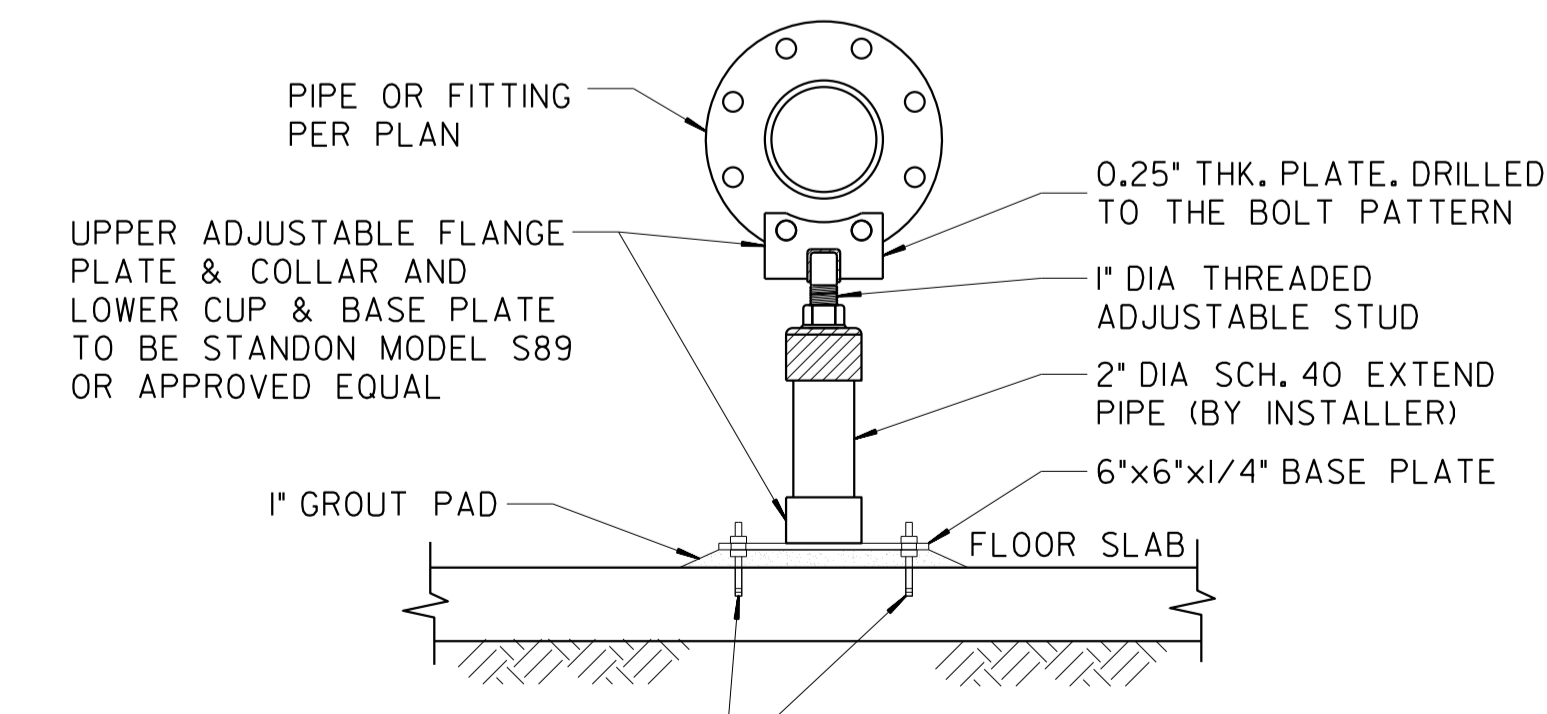
DETAIL 2
SECTION PRESSURE GAUGE AND SENSING DETAIL
N.T.S.



DETAIL 3
WALL PENETRATION DETAIL (TYP)
N.T.S.



DETAIL 4
DRAIN CONNECTION DETAIL (SECTION)
N.T.S.



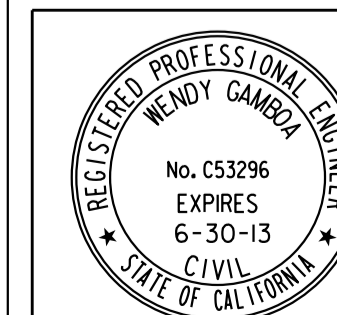
DETAIL 5
ADJUSTABLE PIPE SUPPORT DETAIL
N.T.S.

C-26

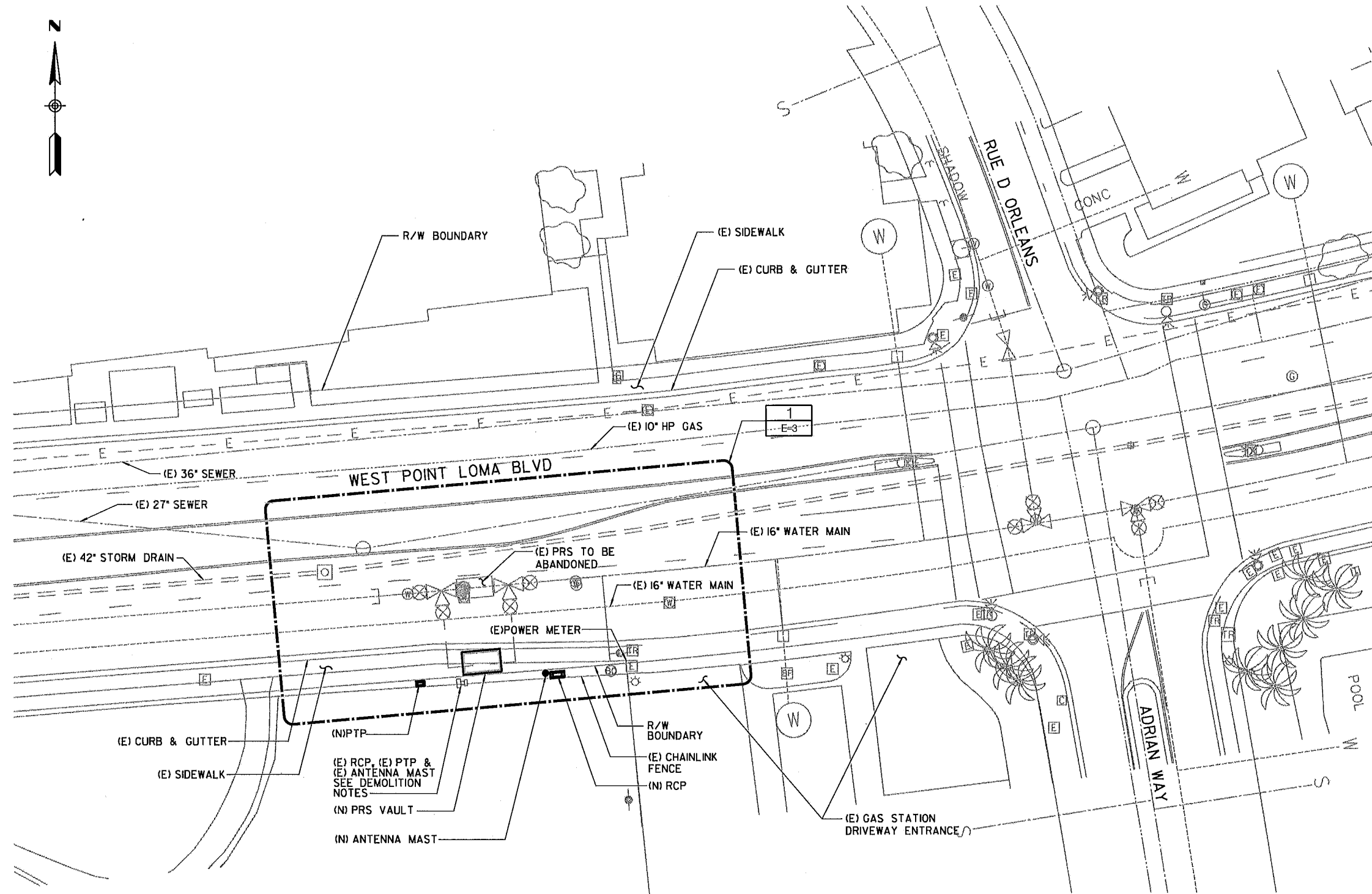
SEWER & WATER GROUP 758
PRESSURE REDUCING STATION DETAIL

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS DEPARTMENT
SHEET 27 OF 44 SHEETS

APPROVED FOR CITY ENGINEER	DATE	12-21-12	SUBMITTED BY	LUIS SCHAAR
DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	FH/ED			
CHECKED BY				MAHYAR NAVZI
				PROJECT ENGINEER
				214-1695
				CCS27 COORDINATE
				6256407-1854444
				CCS83 COORDINATE
CONTRACTOR	DATE STARTED			
INSPECTOR	DATE COMPLETED			35372-27-D



PRESSURE REDUCING STATION DETAIL



DEMOLITION NOTES:

1. CONTRACTOR SHALL REMOVE EXISTING RCP PANEL AS ONE PIECE AND RETURN TO THE CITY.
2. CONTRACTOR SHALL REMOVE BATTERIES FROM (E) RCP PANEL AND RETURN TO THE CITY.
3. CONTRACTOR SHALL REMOVE PTP PANEL IN ONE PIECE AND RETURN TO THE CITY.
4. CONTRACTOR SHALL DEMOLISH ANTENNA, ANTENNA POLE, ANTENNA BASE AND ALL CABLE AND CONDUIT.
5. CONTRACTOR SHALL DEMOLISH ALL CABLE AND CONDUIT ASSOCIATED WITH THE RCP AND PTP PANELS, EXCEPT CONDUIT FROM EXISTING POWER METER.

ABBREVIATIONS:

- RCP = REMOTE CONTROL PANEL
- PRS = PRESSURE REDUCING STATIONS
- PTP = PRESSURE TRANSMITTER PANEL
- R/W = RIGHT OF WAY
- BO = BLOWOFF VALVE

DECLARATION OF RESPONSIBLE CHARGE

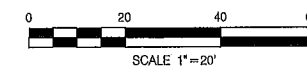
I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS SHEET, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THIS SHEET AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTANT WITH CURRENT STANDARD. I UNDERSTAND THAT THE CHECK OF THIS SHEET AND RELATED SPECIFICATIONS BY THE CITY OF SAN DIEGO ENGINEERING AND CAPITAL PROJECT DEPARTMENT IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK OF MY RESPONSIBILITIES FOR DESIGN OF THIS SHEET.

George S. Park
SIGNATURE

01/24/2013
DATE

E-2

SITE PLAN
SCALE: 1" = 20'-0"



SEWER AND WATER
GROUP 758
ELECTRICAL
OVERALL SITE PLAN

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS - ENGINEERING AND CAPITAL PROJECTS
SHEET 29 OF 44 SHEETS

APPROVED FOR CITY ENGINEER	DATE	1/20/13	WATER WBS B-00074 SEWER WBS B-00365
DESCRIPTION	BY	APPROVED	DATE
ORIGINAL	LRI		
SUBMITTED BY: LUIS SCHAAR PROJECT MANAGER			
PROJECT ENGINEER: MAHYAR NAVIZI			
210-1695 CSS27 COORDINATE			
6256407-1850444 COB83 COORDINATE			
CONTRACTOR	DATE STARTED	35372-29-D	
INSPECTOR	DATE COMPLETED		

CONSULTANT

LEE & RO, Inc.
San Diego, California

SCALE	HORIZONTAL	N/A
	VERTICAL	N/A



**CITY OF SAN DIEGO
PUBLIC WORKS PROJECT**



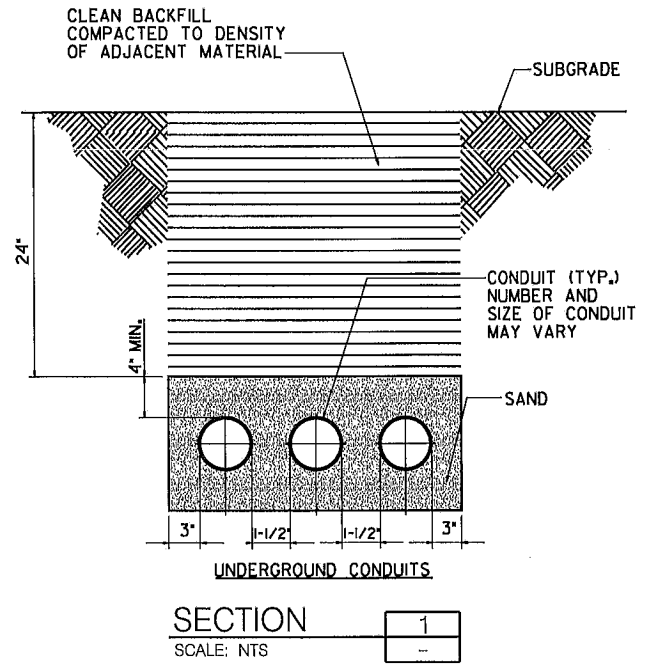
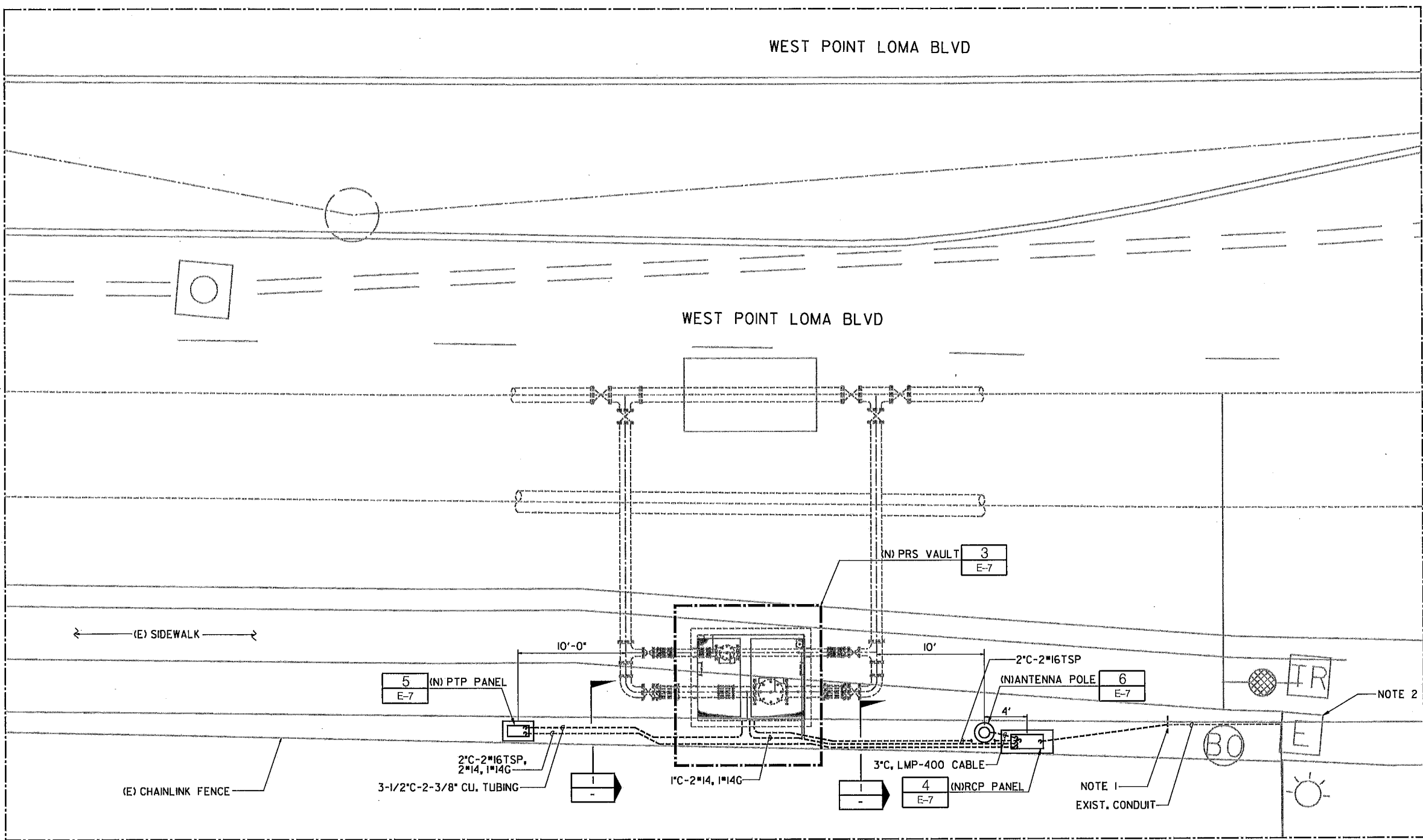
WARNING

0 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

WEST POINT LOMA BLVD.

WEST POINT LOMA BLVD

WEST POINT LOMA BLVD



- NOTES:**
- CONTRACTOR SHALL INTERCEPT EXISTING CONDUIT AND RE-ROUTE CONDUIT (USE SAME MATERIAL AND SIZE CONDUIT AS EXISTING) TO (N) RCP PANEL (2*12, 1*12G). ROUTE NEW CABLES FROM POWER METER TO (N) RCP PANEL OF (E) CONDUIT FROM METER TO (E) RTU PANEL SHALL BE FIELD VERIFIED.
 - EXISTING SERVICE PEDESTAL. REPLACE THE EXISTING CIRCUIT BREAKER WITH NEW 20A BREAKER TO CONNECT RCP CIRCUIT. MATCH AIC RATING OF BREAKER WITH EXISTING AND MINIMUM AIC RATING SHALL BE 10KAIC.

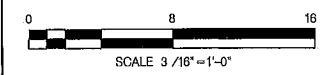
ENLARGED PLAN
SCALE: 3/8"=1'-0"

DECLARATION OF RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS SHEET, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THIS SHEET AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTANT WITH CURRENT STANDARD. I UNDERSTAND THAT THE CHECK OF THIS SHEET AND RELATED SPECIFICATIONS BY THE CITY OF SAN DIEGO ENGINEERING AND CAPITAL PROJECT DEPARTMENT IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK OF MY RESPONSIBILITIES FOR DESIGN OF THIS SHEET.

Jeong S. Park
SIGNATURE

01/24/2013
DATE



CONSULTANT

LEE & RO, Inc.
San Diego, California

SCALE

HORIZONTAL	1/8"=1'-0"
VERTICAL	N/A



CITY OF SAN DIEGO
PUBLIC WORKS PROJECT



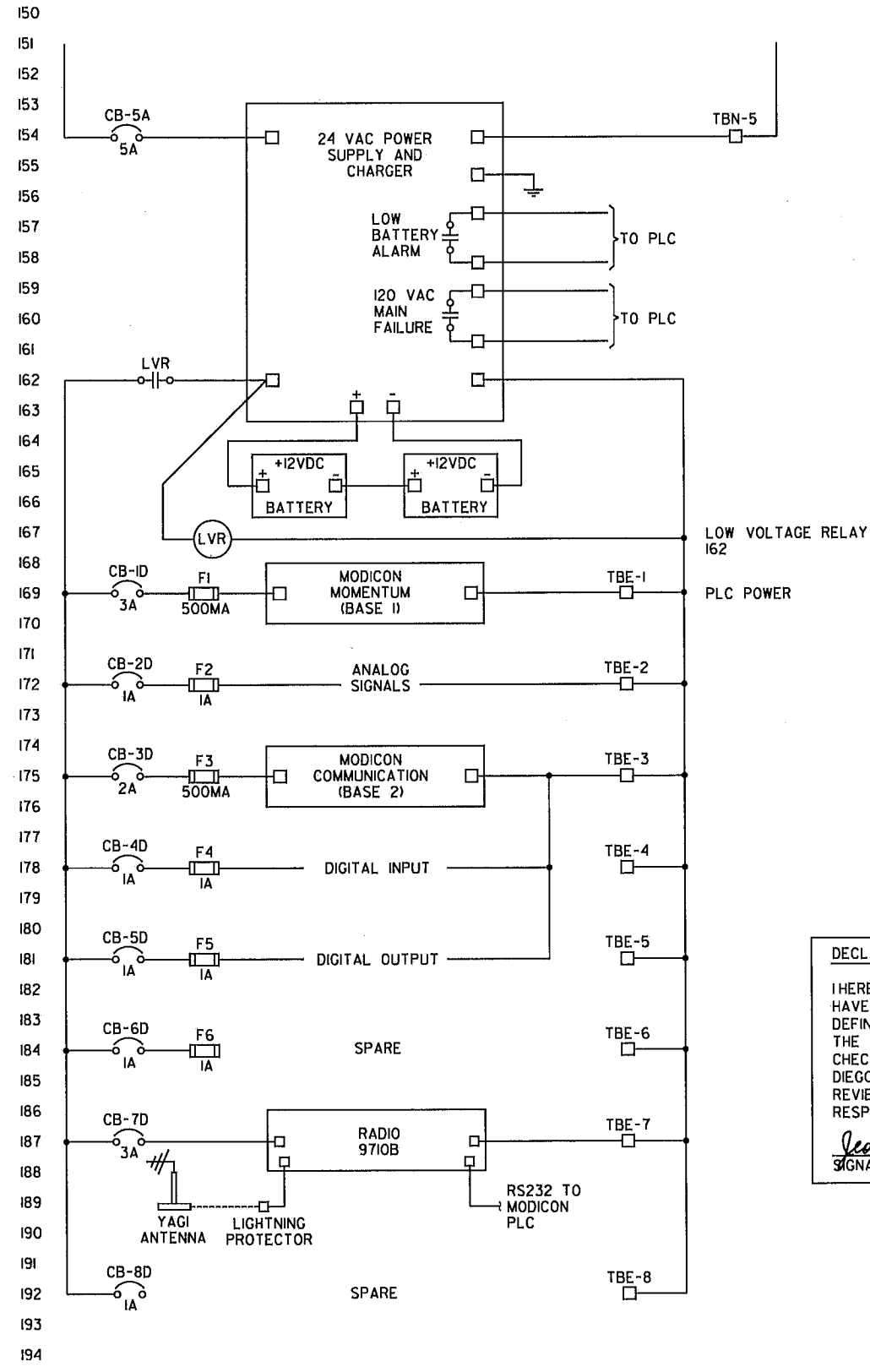
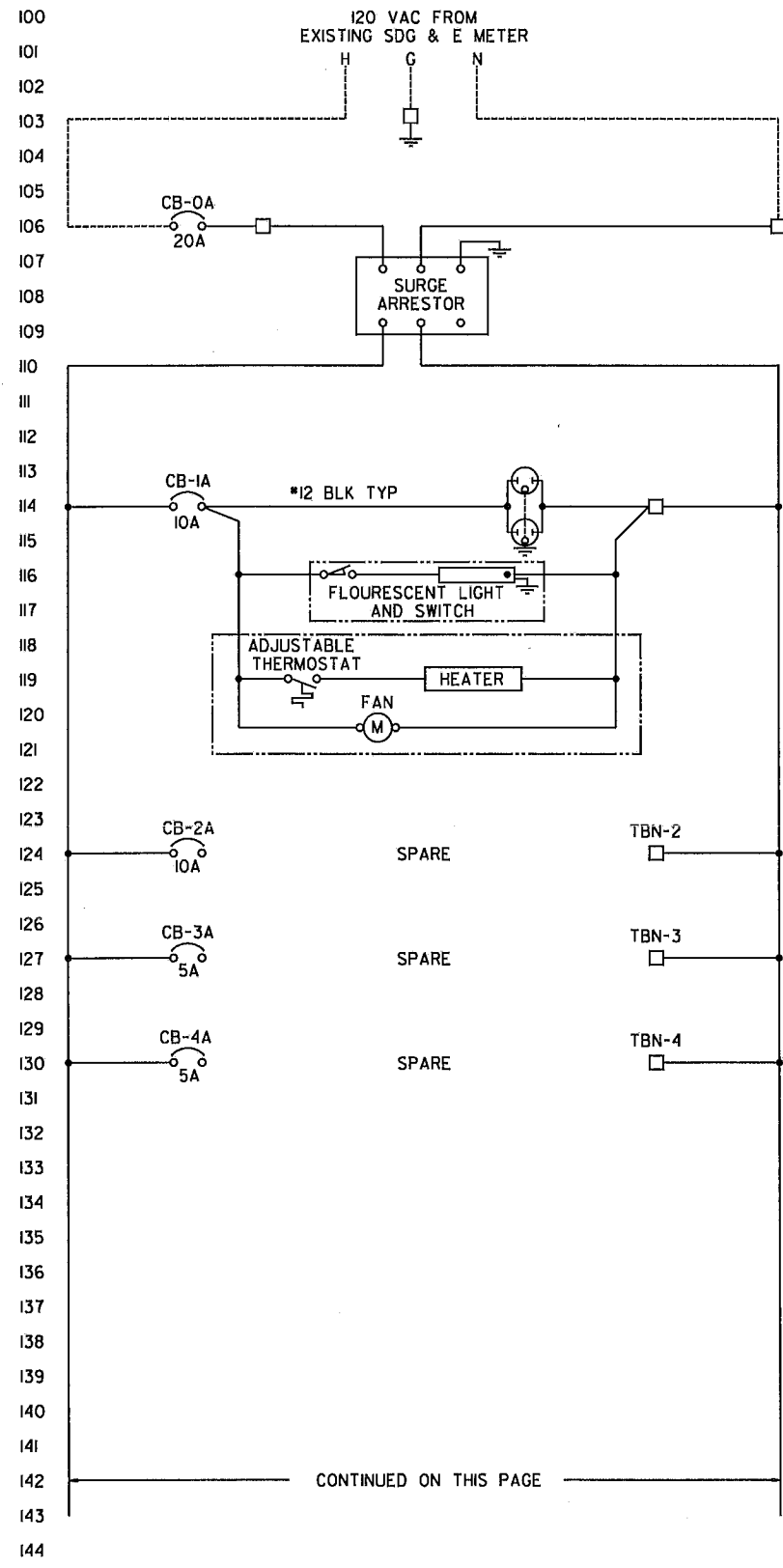
WARNING

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

SEWER AND WATER GROUP 758
ELECTRICAL ENLARGED PLAN

CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS - ENGINEERING AND CAPITAL PROJECTS SHEET 30 OF 44 SHEETS		WATER WBS B-00074 SEWER WBS B-00365
APPROVED FOR CITY ENGINEER: <i>WJ</i>	DATE: 1/20/13	SCHEMATIC BY: LUIS SCHAAR PROJECT MANAGER
DESCRIPTION: ORIGINAL	BY: LRI	PROJECT ENGINEER: MAHYAR NAVIZI
		210-1695 CSS27 COORDINATE
		6256407-1B50444 CS883 COORDINATE
CONTRACTOR: _____	DATE STARTED: _____	35372-30-D
INSPECTOR: _____	DATE COMPLETED: _____	

WEST POINT LOMA BLVD.



DECLARATION OF RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS SHEET, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THIS SHEET AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTANT WITH CURRENT STANDARD. I UNDERSTAND THAT THE CHECK OF THIS SHEET AND RELATED SPECIFICATIONS BY THE CITY OF SAN DIEGO ENGINEERING AND CAPITAL PROJECT DEPARTMENT IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK OF MY RESPONSIBILITIES FOR DESIGN OF THIS SHEET.

George S. Park
SIGNATURE

01/24/2013
DATE

E-4

POWER DISTRIBUTION WIRING

CONSULTANT

LEE & RO, Inc.
San Diego, California

SCALE: HORIZONTAL N/A
VERTICAL N/A



CITY OF SAN DIEGO
PUBLIC WORKS PROJECT

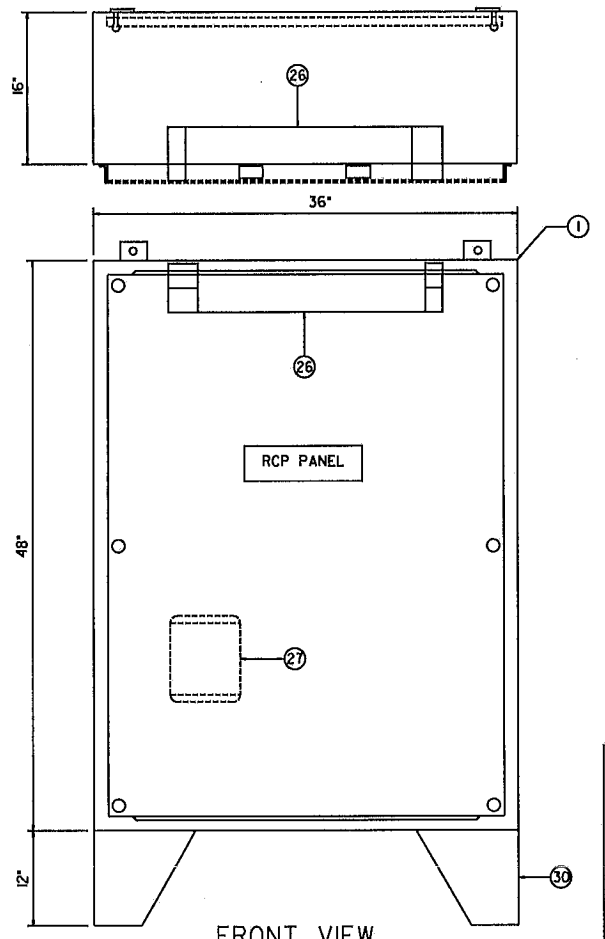
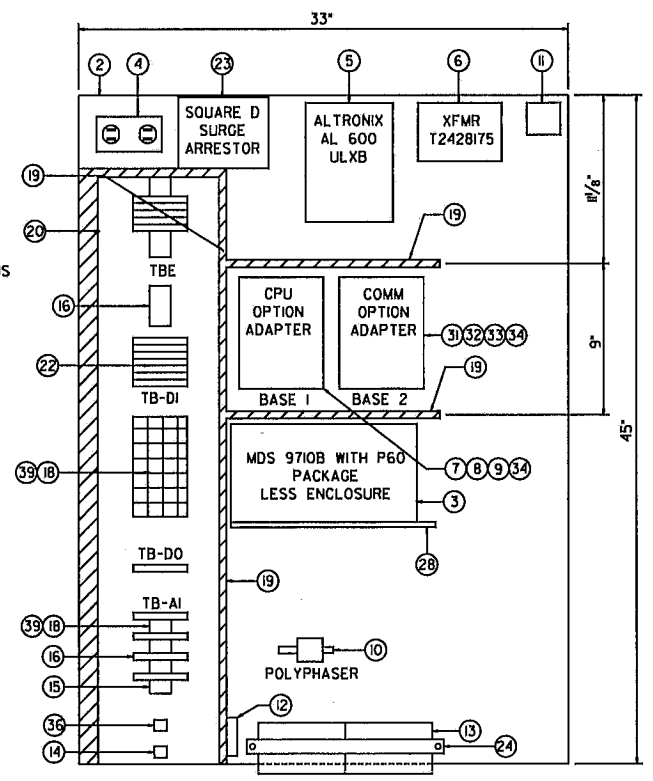
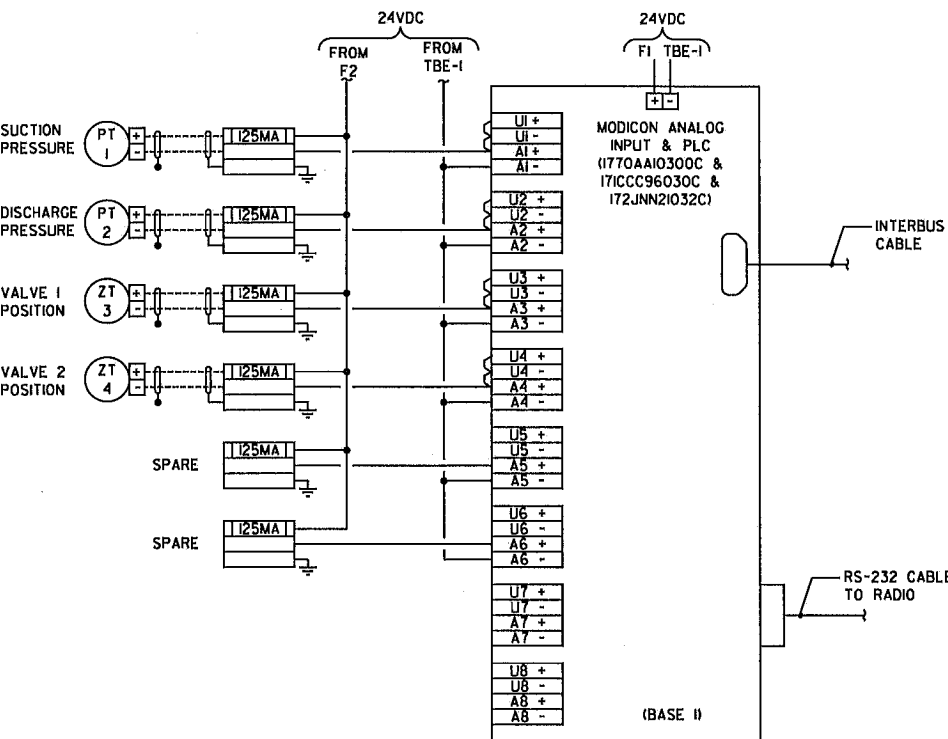
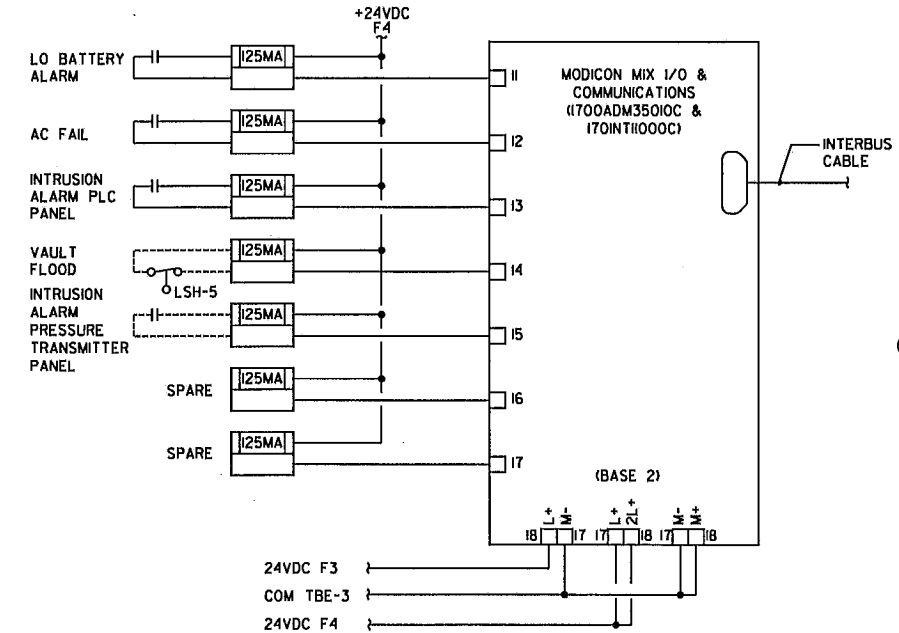
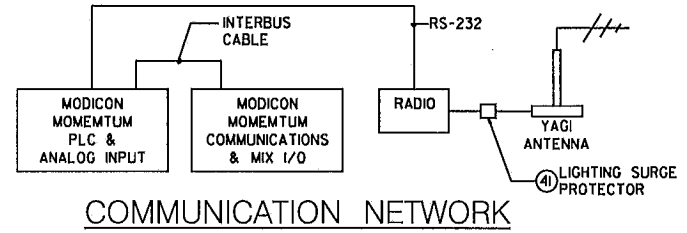


WARNING

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

SEWER AND WATER GROUP 758 REMOTE CONTROL PANEL POWER DISTRIBUTION WIRING SHEET 1 OF 2			
CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS - ENGINEERING AND CAPITAL PROJECTS SHEET 31 OF 44 SHEETS		WATER WBS B-00074 SEWER WBS B-00365	
APPROVED: <i>WSP</i>	DATE: 1/28/13	SUBMITTED BY: LUIS SCHAAR PROJECT MANAGER	
FOR CITY ENGINEER	DATE	MAHYAR NAVIZI PROJECT ENGINEER	
DESCRIPTION	BY	APPROVED	
ORIGINAL	LRI		
CONTRACTOR	DATE STARTED	35372-31-D	
INSPECTOR	DATE COMPLETED		

WEST POINT LOMA BLVD.



REMOTE CONTROL PANEL (RCP)

BILL OF MATERIAL SCHEDULE

ITEM	MANUFACTURER	MODEL NO	DESCRIPTION
1	HOFFMAN	A-48H3616SSLP3PTW	48"x36"x16" WHITE ENCLOSURE, NEMA 4X, 316SS
2	HOFFMAN	A-48P36	45"x33" STEEL BACK PANEL
3	MDS	9710B/P60 PACKAGE	900 MHZ RADIO 24DC POWER SUPPLY W/ DIAGNOSTIC OPTION
4	PHOENIX CONTACT	EM/DUO/120/15 GFI	CONVENIENCE RECEPTACLE
5	ALTRONIX	AL 600ULXB	POWER SUPPLY CHARGER
6	NOT USED	-	-
7	MODICON	170 AAI 03000C	AIBASE
8	MODICON	171CCC 96030C	PLC PROCESSOR
9	MODICON	172 JNN 210 32C	OPTION ADAPTER
10	POLYPHASER	IS-B50LN-C2	LIGHTNING PROTECTOR
11	LIMIT SWITCH	802T-AP/802T-W17	ALLEN BRADLEY
12	-	-	GROUND BAR
13	GNB (MARATHON)	M12V40	12 VDC BATTERY (40AH) OTY: 2
14	POTTER & BRUMFIELD	CSL-38-30010	LOW VOLTAGE RELAY
15	PHOENIX	USLKG 5	GROUNDING TERMINAL BLOCK
16	PHOENIX	UK 5 N	1LEVEL TERMINAL BOX
17	PHOENIX	UK 4-TG	1LEVEL BASE TERMINAL BOX (FUSED)
18	PHOENIX	2774237	3 LEVEL TERMINAL BOX
19	PANDUIT	G1X4LG6	WIRING DUCT
20	PANDUIT	G2X4LG6	WIRING DUCT

ITEM	MANUFACTURER	MODEL NO	DESCRIPTION
21	ALLEN BRADLEY	199-DR1/1492-DR6	DIN RAIL 35MM
22	ALLEN BRADLEY	1492-GH	CIRCUIT BREAKERS
23	SQUARE D	TYS120LC20	SURGE PROTECTOR
24	-	-	16 GAUGE BATTERY STRAP
25	-	-	16 GAUGE STAND OFF BRACKET
26	HOFFMAN	ALTDBI	INTERIOR PANEL LIGHT
27	HOFFMAN	DAHOOIA	HEATER MOUNTED ON BACK OF DOOR
28	-	-	14 GAUGE SHELF FOR RADIO
29	NOT USED	-	-
30	HOFFMAN	AFK1216SS	12" FLOOR STAND KIT PAINTED WHITE, 316SS
31	MODICON	170ADM35010C	MIX I/O BASE
32	MODICON	170INT1000	COMMUNICATIONS MODULE
33	MODICON	170MC100700	COMMUNICATIONS CABLE
34	MODICON	170XTS00100	TERMINAL STRIP
35	NOT USED	-	-
36	PHOENIX	5542754	24 VDC RELAY
37	NOT USED	-	-
38	NOT USED	-	-
39	PHOENIX	0921037	FUSES PLUG (DI AND DO ONLY)
40	PHOENIX	0921011	FUSE PLUG (AI ONLY)
41	-	-	SURGE PROTECTOR

DECLARATION OF RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS SHEET, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THIS SHEET AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTANT WITH CURRENT STANDARD, I UNDERSTAND THAT THE CHECK OF THIS SHEET AND RELATED SPECIFICATIONS BY THE CITY OF SAN DIEGO ENGINEERING AND CAPITAL PROJECT DEPARTMENT IS CONFINED TO A REVIEW ONLY AND DOES NOT RELEIVE ME, AS ENGINEER OF WORK OF MY RESPONSIBILITIES FOR DESIGN OF THIS SHEET.

George S. Park
SIGNATURE

01/24/2013
DATE

E-5

SEWER AND WATER GROUP 758
REMOTE CONTROL PANEL
POWER DISTRIBUTION WIRING
SHEET 2 OF 2

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS - ENGINEERING AND CAPITAL PROJECTS
SHEET 32 OF 44 SHEETS

APPROVED FOR CITY ENGINEER	DATE	1/29/13	SUBMITTED BY	LIPS SCHAAR PROJECT MANAGER
DESCRIPTION	BY	APPROVED	DATE	FILED
ORIGINAL	LRI			
SEE SHEETS CS827 COORDINATE				
SEE SHEETS CS883 COORDINATE				
CONTRACTOR	DATE STARTED	35372-32-D		
INSPECTOR	DATE COMPLETED			

CONSULTANT

LEE & RO, Inc.
San Diego, California

SCALE: HORIZONTAL N/A
VERTICAL N/A



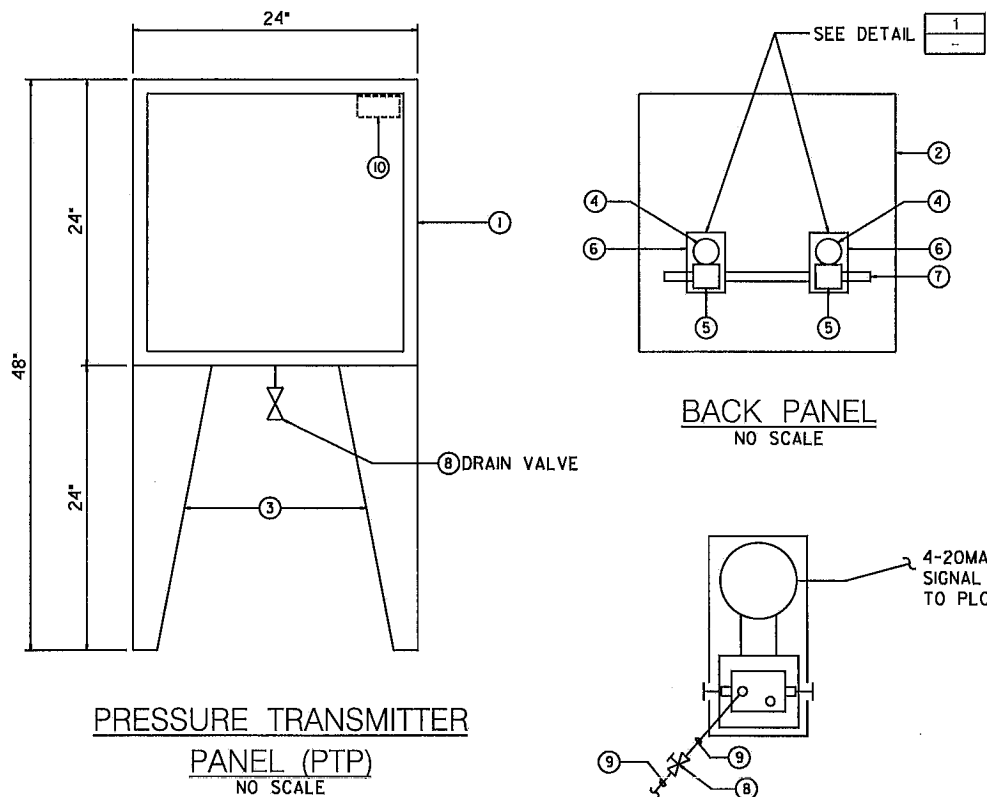
CITY OF SAN DIEGO
PUBLIC WORKS PROJECT



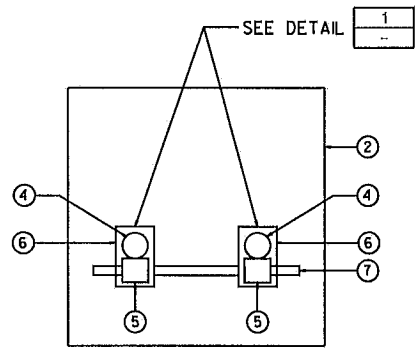
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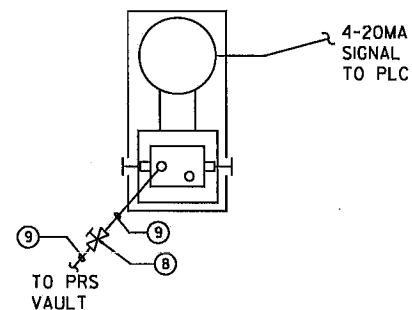
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.



PRESSURE TRANSMITTER
PANEL (PTP)
NO SCALE



BACK PANEL
NO SCALE



PRESSURE TRANSMITTER
DETAIL
NO SCALE

BILL OF MATERIAL SCHEDULE

ITEM	MANUFACTURER	MODEL NO	DESCRIPTION
①	HOFFMAN	A-24H24I2SSL 3PTW	24"x24"x12" ENCLOSURE, NEMA 4X, 316SST
②	HOFFMAN	A-24P24	STEEL BACK PANEL
③	HOFFMAN	A-FK24I2SS	24" PANEL MOUNTING KIT, 316SST
④	SMAR	LD30I	PRESSURE TRANSMITTER (4-20MA)
⑤	OLIVER VALVES	TYPE Y24C	2-WAY ISOLATION VALVE, 316SS, 600 PSI
⑥			MOUNTING BRACKET
⑦	UNISTRUT	-	CHANNEL & BOLTING
⑧			BALL VALVE, BRASS
⑨			POLYETHYLENE TUBING
⑩	SENTROL	I13 SERIES	NON-CONTACT INTERLOCK/POSITION SWITCH

DECLARATION OF RESPONSIBLE CHARGE

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Jeany S. Park
SIGNATURE

01/24/2013
DATE

E-6

SEWER AND WATER
GROUP 758
PRESSURE TRANSMITTER
PANEL

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS - ENGINEERING AND CAPITAL PROJECTS
SHEET 33 OF 44 SHEETS

WATER
WBS B-00074
SEWER
WBS B-00365

DESCRIPTION	BY	APPROVED	DATE	FILED
ORIGINAL	LRI			

APPROVED: *WDR* 1/29/13
FOR CITY ENGINEER DATE

SUBMITTED BY: LUIS SCHAAR
PROJECT MANAGER

MAHYAR NAVAZI
PROJECT ENGINEER

SEE SHEETS
CSS27 COORDINATE

SEE SHEETS
CC883 COORDINATE

CONTRACTOR: _____ DATE STARTED: _____
INSPECTOR: _____ DATE COMPLETED: _____

35372-33-D

CONSULTANT

LEE & RO, Inc.
San Diego, California

SCALE

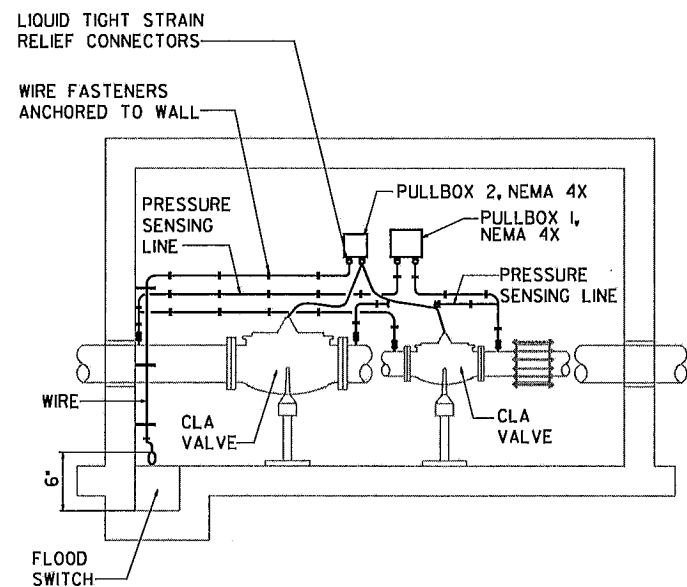
HORIZONTAL	N/A
VERTICAL	N/A



CITY OF SAN DIEGO
PUBLIC WORKS PROJECT



WARNING
0 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

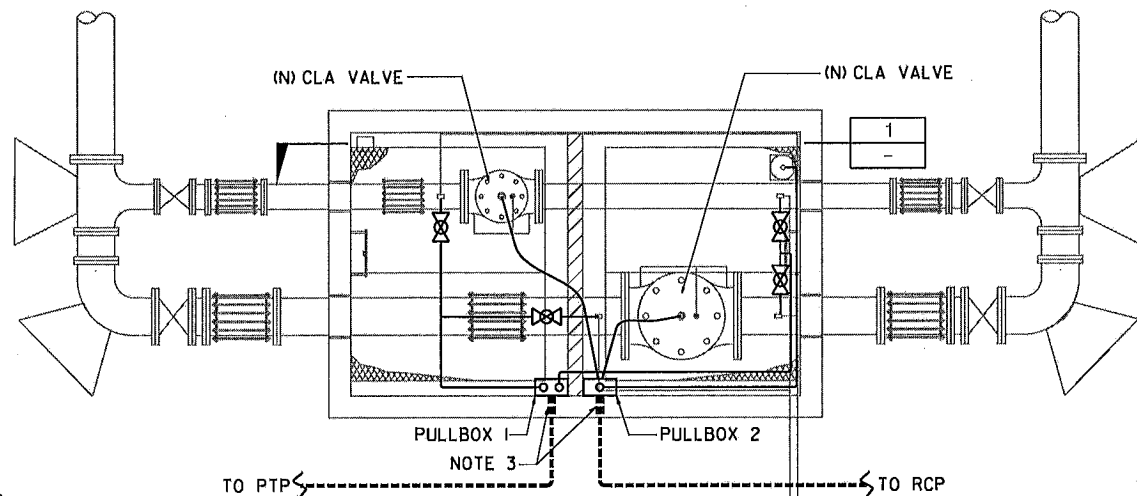


PRS VAULT STRUCTURE SIDE VIEW

DETAIL

NO SCALE

1
E-3



NOTES:

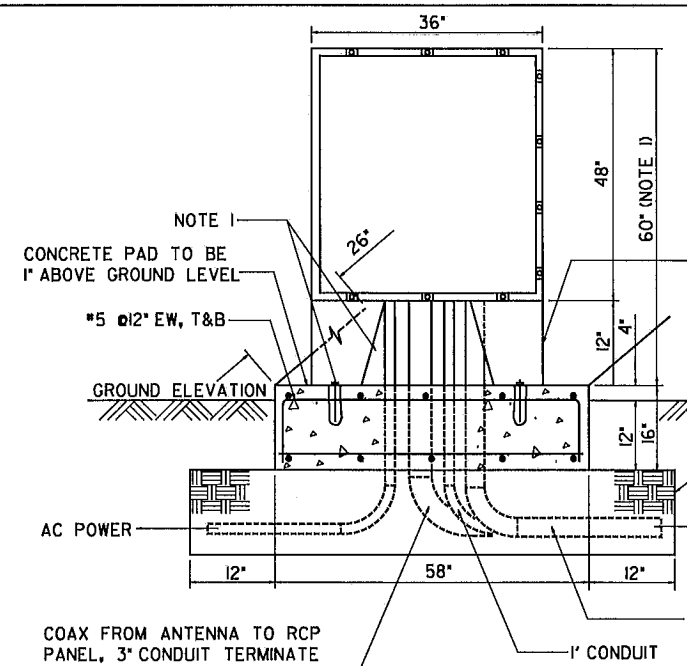
- PULLBOX 1 SHALL BE SIZE APPROPRIATE TO BEND 3/8" COPPER TUBING IN THE BOTTOM AND OUT BACK INTO A 3-1/2" CONDUIT. MINIMUM OF 10"H X 8"W X 10"D REQUIRED FOAM FILL CONDUIT ENTRIES.
- PULLBOX 2 SHALL BE SIZED APPROPRIATE TO HOUSE TERMINALS FOR LEVEL SWITCH. WIRES FROM LEVEL SWITCH WILL LAND ON TERMINALS AND BE ROUTED OUT THE BACK INTO A 1" CONDUIT. MINIMUM 6"H X 8"W X 6"D REQUIRED FOAM FILL CONDUIT ENTRIES.
- CORE DRILL CONDUIT ENTRIES WITH THE APPROPRIATE SIZES (SEE NOTES 1 & 2). FILL SPACE WITH FOAM.
- CONTRACTOR SHALL PROVIDE ALL PULLBOXES, TERMINALS, AND MOUNTING MATERIALS.

PRS VAULT STRUCTURE PLAN

DETAIL

NO SCALE

3
E-3



REMOTE CONTROL PANEL (RCP) VIEW

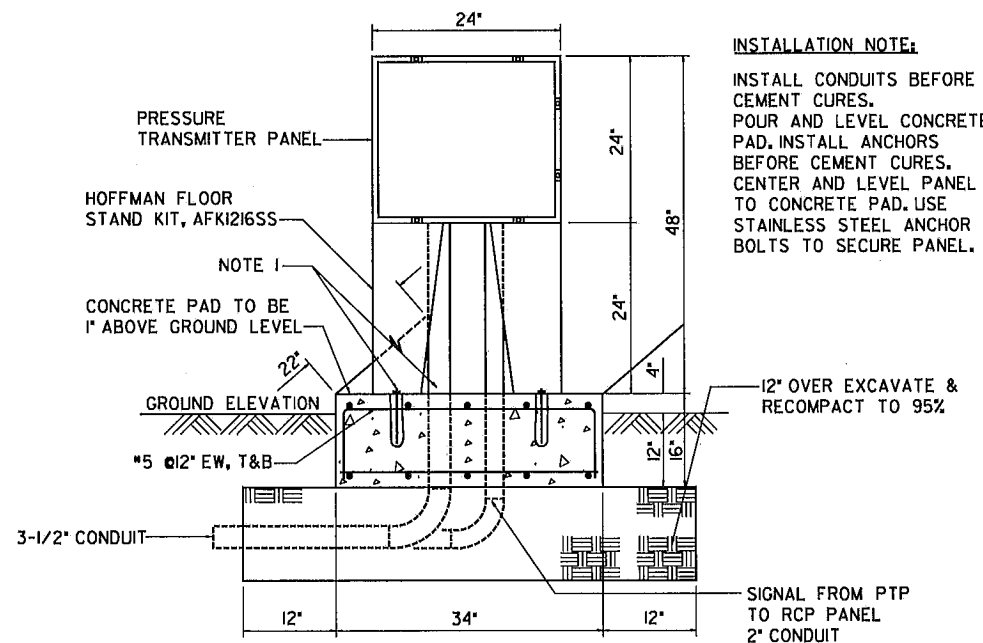
DETAIL

NO SCALE

4
E-3

INSTALLATION NOTE:

- INSTALL CONDUITS BEFORE CEMENT CURES. POUR AND LEVEL CONCRETE PAD. INSTALL ANCHORS BEFORE CEMENT CURES. CENTER AND LEVEL PANEL TO CONCRETE PAD. USE STAINLESS STEEL ANCHOR BOLTS TO SECURE PANEL.



PRESSURE TRANSMITTER PANEL (PTP) FRONT VIEW

DETAIL

NO SCALE

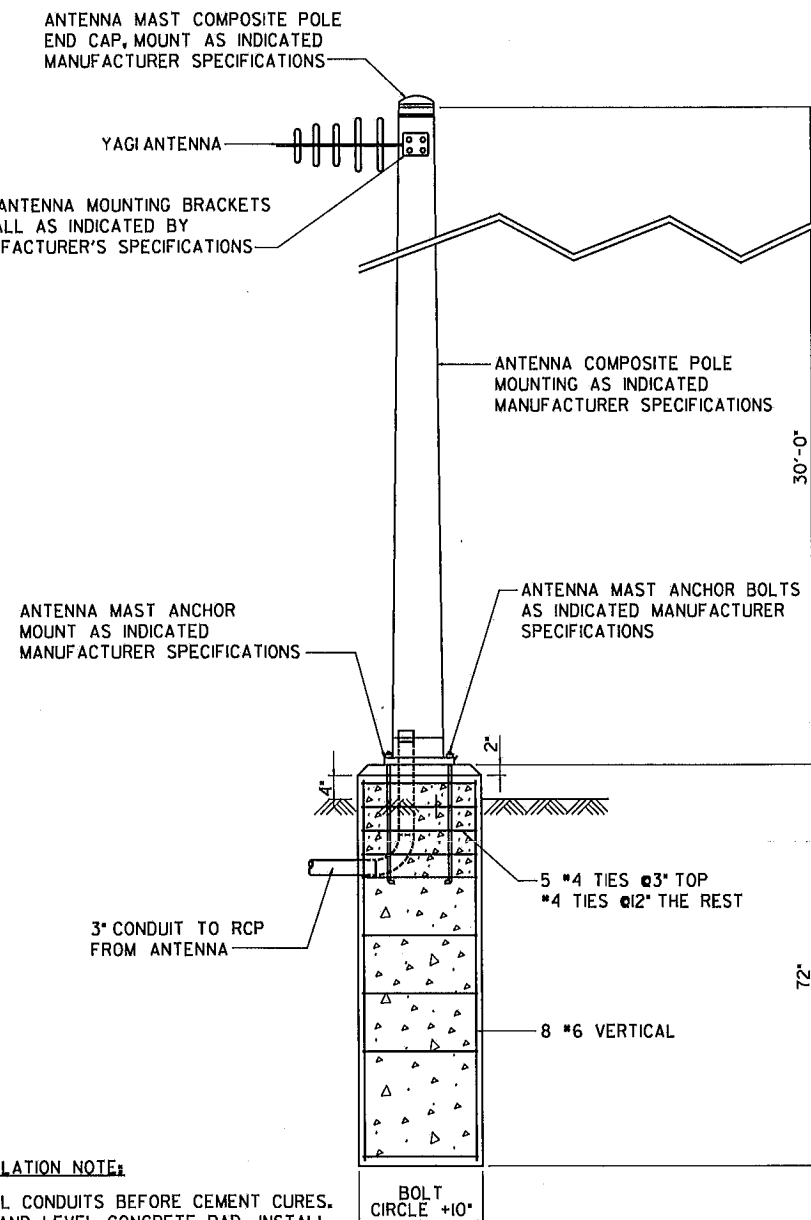
5
E-3

INSTALLATION NOTE:

- INSTALL CONDUITS BEFORE CEMENT CURES. POUR AND LEVEL CONCRETE PAD. INSTALL ANCHORS BEFORE CEMENT CURES. CENTER AND LEVEL PANEL TO CONCRETE PAD. USE STAINLESS STEEL ANCHOR BOLTS TO SECURE PANEL.

INSTALLATION NOTE:

- INSTALL CONDUITS BEFORE CEMENT CURES. POUR AND LEVEL CONCRETE PAD. INSTALL ANCHORS BEFORE CEMENT CURES. CENTER AND LEVEL PANELS TO CONCRETE PAD. USE STAINLESS STEEL ANCHOR BOLTS TO SECURE PANEL.



ANTENNA BASE FRONT VIEW

DETAIL

NO SCALE

6
E-3

DECLARATION OF RESPONSIBLE CHARGE

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George S. Park
SIGNATURE

01/24/2013
DATE

CONSULTANT
LEE & RO, Inc.
San Diego, California

SCALE
HORIZONTAL N/A
VERTICAL N/A



CITY OF SAN DIEGO
PUBLIC WORKS PROJECT



WARNING

0 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

SEWER AND WATER GROUP 758
ELETRICAL INSTALLATION
DETAIL SHEET

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS - ENGINEERING AND CAPITAL PROJECTS
SHEET 34 OF 44 SHEETS

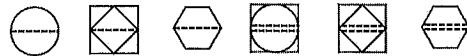
APPROVED FOR CITY ENGINEER	DATE	1/28/13	DESIGNED BY	PROJECT ENGINEER
DESCRIPTION	BY	APPROVED	DATE	FILED
ORIGINAL	LRI			
MAHYAR NAVIZI PROJECT ENGINEER				
SEE SHEETS CS827 COORDINATE				
SEE SHEETS CS883 COORDINATE				
CONTRACTOR	DATE STARTED	35372-34-D		
INSPECTOR	DATE COMPLETED			

GENERAL INSTRUMENT OR FUNCTION SYMBOLS

	PRIMARY LOCATION ***NORMALLY ACCESSIBLE TO OPERATOR	FIELD MOUNT	AUXILIARY LOCATION ***NORMALLY ACCESSIBLE TO OPERATOR
DISCRETE INSTRUMENTS			
SHARED DISPLAY, SHARED CONTROL			
COMPUTER FUNCTION			
PROGRAMMABLE LOGIC CONTROL			

•• ABBREVIATIONS SUCH AS IPI (INSTRUMENT PANEL #1), IC2 (INSTRUMENT CONSOLE #2), CC3 (COMPUTER CONSOLE #3), ETC, ARE USED WHEN NECESSARY TO SPECIFY INSTRUMENT OR FUNCTION LOCATION

••• NORMALLY INACCESSIBLE OR BEHIND-THE-PANEL DEVICES OR FUNCTIONS ARE DEPICTED BY USING THE SAME SYMBOLS BUT WITH DASHED HORIZONTAL BARS, IE



(XXX) SOFTWARE OR LOGIC RESIDENT IN DISTRIBUTED CONTROL SYSTEM (DCS) AT PROCESS CONTROL MODULE (PCM) XXX. SEE ASSOCIATED LOOP DESCRIPTION IN SPECIFICATIONS

(XXX) DESIGNATIONS OF CONTROL FUNCTIONS ASSOCIATED WITH INSTRUMENT OR OTHER COMPONENTS

- | | |
|------------------------|-----------------------|
| OCA - OPEN/CLOSE/AUTO | RL - RAISE/LOWER |
| RSL - RAISE/STOP/LOWER | OAC - OPEN/AUTO/CLOSE |
| HOA - HAND OFF/AUTO | OSC - OPEN/STOP/CLOSE |
| AM - AUTO/MANUAL | SS - STOP/START |
| LR - LOCAL/REMOTE | SEL - SELECT |
| SD - SHUTDOWN | SP - SET POINT |
| DEV - DEVIATION | |

INSTRUMENT PANEL MOUNTED WITH COMPUTING OR CONVERTING FUNCTION

- | | | |
|---------|---------------|----------------------------|
| CONVERT | E - VOLTAGE | H - HYDRAULIC |
| | I - CURRENT | O - ELECTROMAGNETIC, SONIC |
| | P - PNEUMATIC | R - RESISTANCE (ELECT) |
| | A - ANALOG | D - DIGITAL |
| | B - BINARY | |

- | | | |
|---------|-----------------|----------------|
| COMPUTE | SUMMING | AVERAGING |
| | SUBTRACTOR | RATIO |
| | MULTIPLYING | DIFFERENCE |
| | DIVIDING | HIGH SELECTING |
| | ROOT EXTRACTION | LOW SELECTING |
| | PROPORTIONAL | INTEGRAL |
| | DERIVATIVE | |

INSTRUMENT SYMBOLS

- MAGNETIC FLOWMETER
- ELECTRIC SIGNAL
- SOFTWARE SIGNAL
- CENTRIFUGAL PUMP
- BALL VALVE
- PLUG VALVE
- CHECK VALVE
- PINCH CHECK VALVE
- REDUCER
- KNIFE GATE VALVE
- GATE VALVE
- ELECTRICAL MOTOR OPERATED VALVE
- SOLENOID VALVE
- DIAPHRAGM SEAL
- LEVEL TRANSMITTER FLOAT TYPE

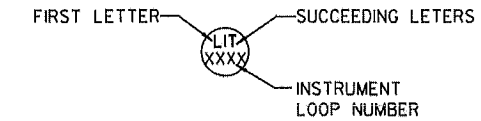
- INSTRUMENT OR OTHER COMPONENT TO BE MOUNTED IN THE FIELD
- INSTRUMENT OR OTHER COMPONENT TO BE MOUNTED INSIDE MAIN CONTROL PANEL OR OTHER PANEL AS MARKED
- INSTRUMENT OR OTHER COMPONENT TO BE MOUNTED ON MCP FRONT PANEL OR OTHER PANEL AS MARKED
- INSTRUMENT MOUNTED ON LOCAL CONTROL PANEL
- SINGLE INSTRUMENT OR OTHER COMPONENT HAVING MULTIPLE FUNCTIONS
- INSTRUMENT OR OTHER COMPONENT TO BE FURNISHED AND INSTALLED BY OTHERS IN THE FUTURE
- COMPUTER INTERFACE
- GENERALIZED FOR COMPLEX INTERLOCK LOGIC-SEE ELECTRICAL SCHEMATICS OR SPECIFICATIONS
- INTERLOCK IF ANY ONE OR MORE INPUTS EXIST
- INTERLOCK IF ALL INPUTS EXIST

- STATUS OR PILOT LIGHT
R-RED G-GREEN A-AMBER
- DIGITAL INPUT
- DIGITAL OUTPUT
- ANALOG INPUT
- ANALOG OUTPUT

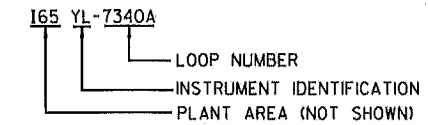
INSTRUMENT IDENTIFICATION TAG LETTERS

LETTER	FIRST LETTER		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER FLAME				
C	CONDUCTIVITY ELECTRICAL			CONTROL	
D	DENSITY	DIFFERENTIAL			
E	VOLTAGE (EMF)		PRIMARY ELEMENT		
F	FLOW RATE	RATIO			
G	GAGE		GLASS		
H	HAND (MANUALLY INITIATED)				HIGH (OPEN)
I	CURRENT (ELECT)		INDICATE		
J	POWER	SCAN			
K	TIME OR TIME SCHEDULE	TIME RATE OF CHANGE			CONTROL STATION
L	LEVEL		LIGHT (PILOT)		LOW (CLOSE)
M	MOISTURE OR HUMIDITY				MIDDLE OR INTERMEDIATE
N	TORQUE				
O			ORIFICE		
P	PRESSURE OR VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY OR EVENT	INTEGRATE TOTALIZE			
R	RADIOACTIVITY		RECORD OR PRINT		
S	SPEED/FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION			VALVE, DAMPER, OR LOUVER	
W	WEIGHT OR FORCE		WELL		
X					
Y	EVENT / STATE			RELAY OR COMPUTE DRIVER, ACTUATOR	
Z	POSITION				

INSTRUMENTATION IDENTIFICATION & NUMBERING



I/O NUMBERING SYSTEM



DECLARATION OF RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS SHEET, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THIS SHEET AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTANT WITH CURRENT STANDARD. I UNDERSTAND THAT THE CHECK OF THIS SHEET AND RELATED SPECIFICATIONS BY THE CITY OF SAN DIEGO ENGINEERING AND CAPITAL PROJECT DEPARTMENT IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK OF MY RESPONSIBILITIES FOR DESIGN OF THIS SHEET.

George S. Park
SIGNATURE DATE 01/24/2013

SEWER AND WATER GROUP 758 INSTRUMENTATION SYMBOLS & ABBREVIATIONS

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS - ENGINEERING AND CAPITAL PROJECTS
SHEET 35 OF 44 SHEETS

WATER WBS B-00074
SEWER WBS B-00365

APPROVED FOR CITY ENGINEER	DATE	DATE	DATE	DATE
DESCRIPTION	BY	APPROVED	DATE	FILED
ORIGINAL	LRI			
SEE SHEETS				
CS827 COORDINATE				
SEE SHEETS				
CS883 COORDINATE				
CONTRACTOR	DATE STARTED	35372-35-D		
INSPECTOR	DATE COMPLETED			

CONSULTANT

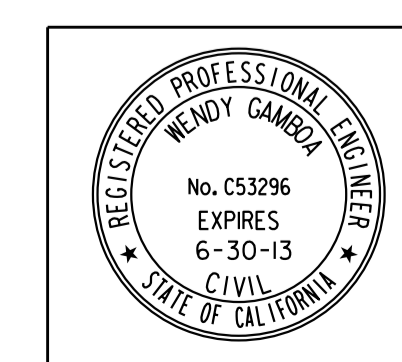
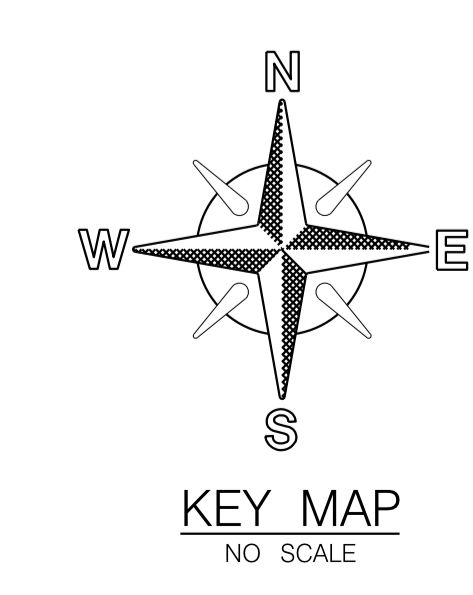
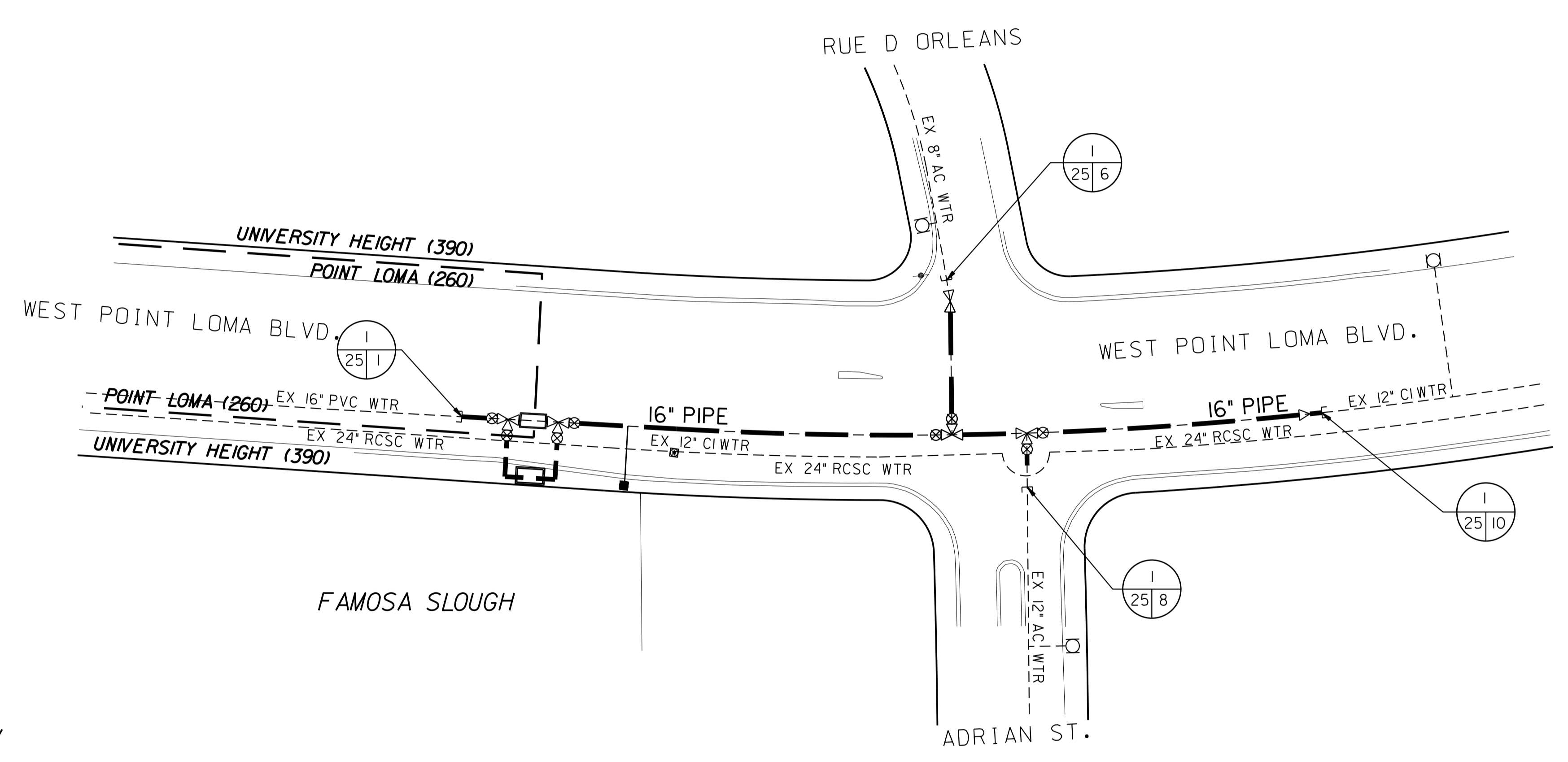
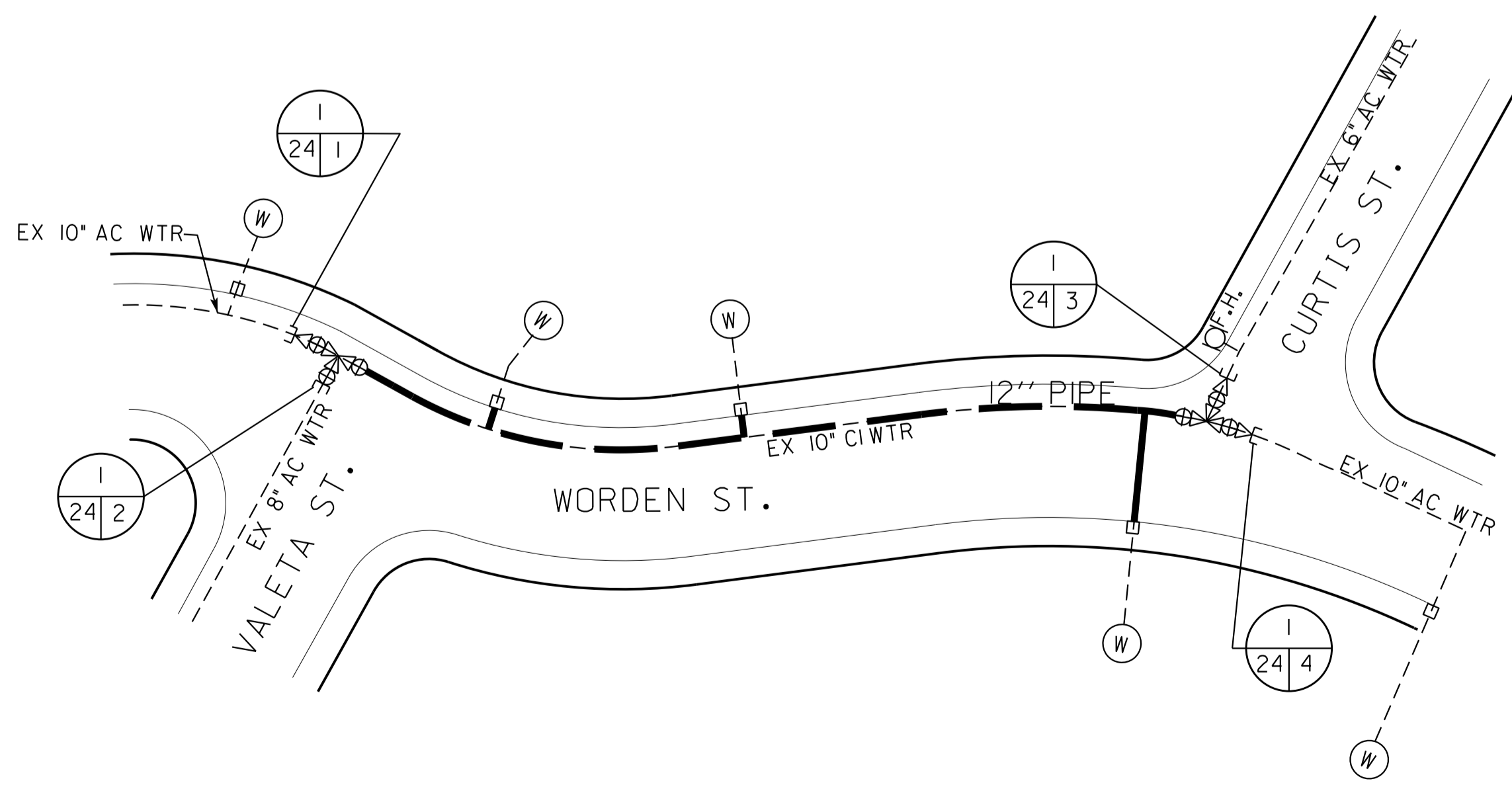
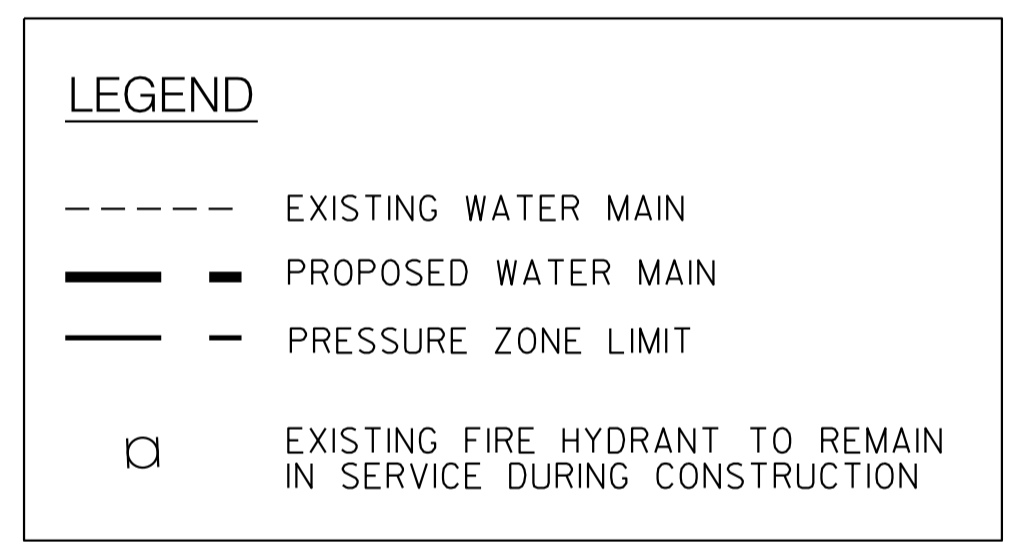
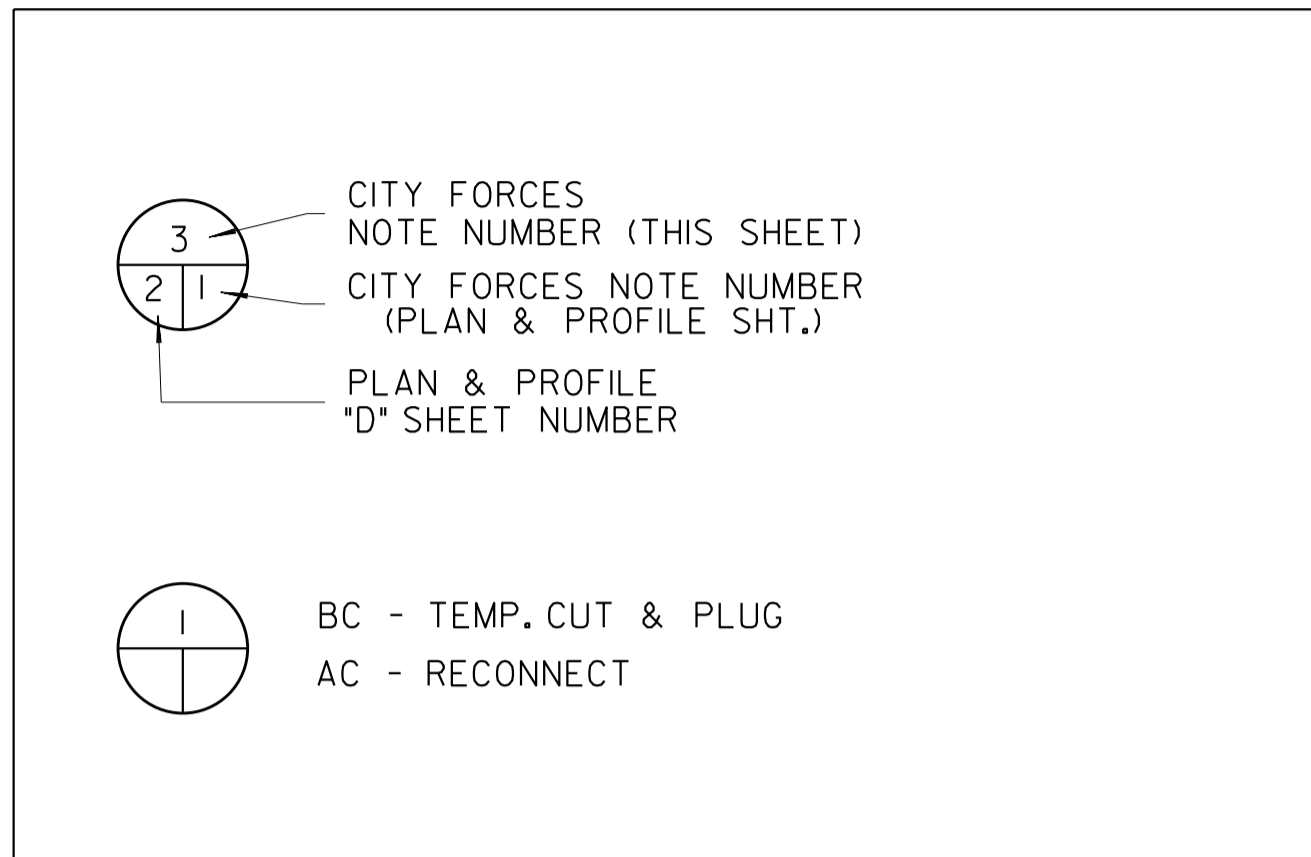
San Diego, California

SCALE HORIZONTAL N/A VERTICAL N/A

CITY OF SAN DIEGO PUBLIC WORKS PROJECT

WARNING

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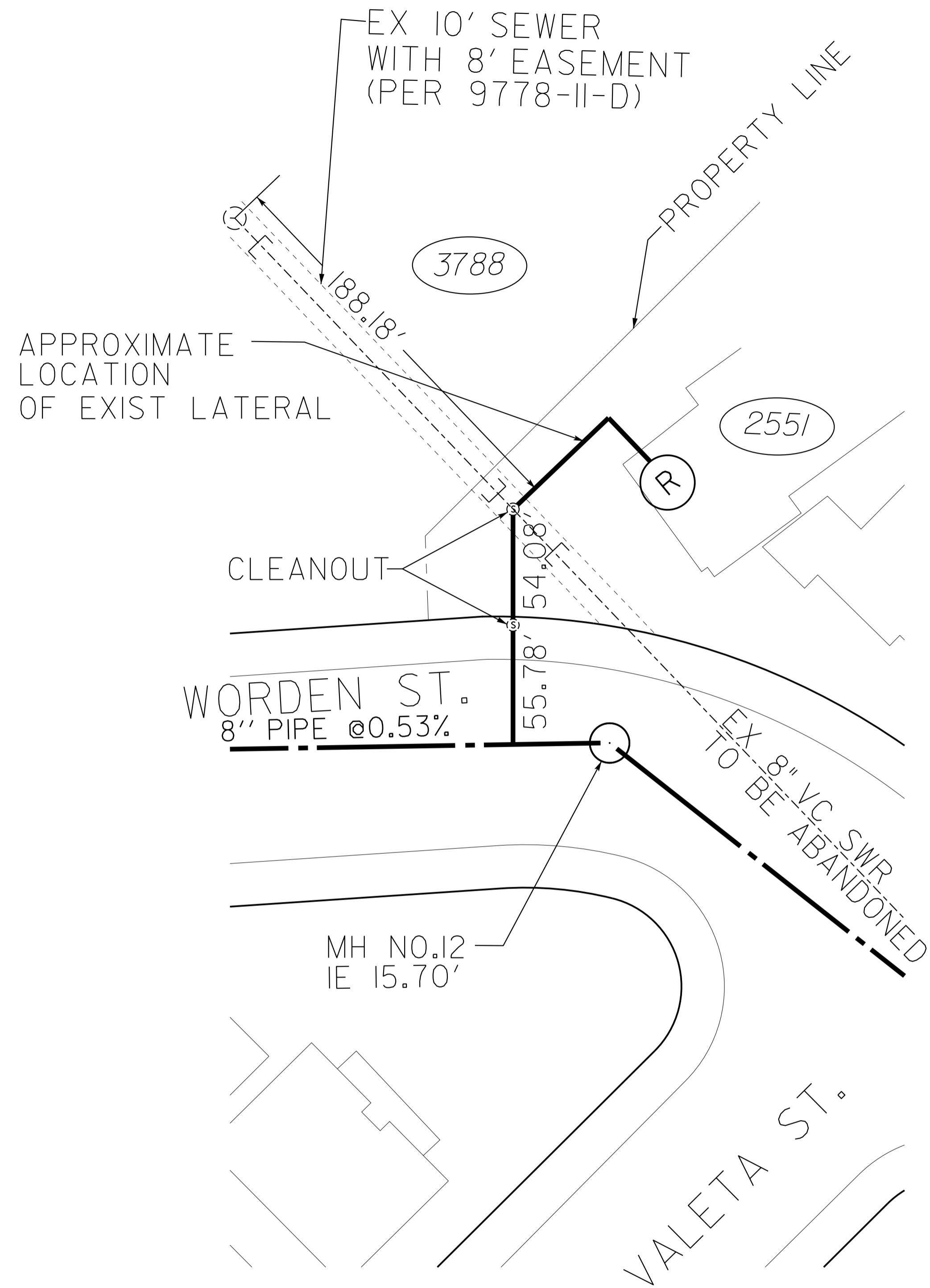


C-27

SEWER & WATER GROUP 758
WORK BY CITY FORCES

CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 37 OF 44 SHEETS		WATER WBS B-00074
APPROVED: FOR CITY ENGINEER	DATE 12-21-12	SUBMITTED BY: LUIS SCHAAR ASSOCIATE ENGINEER
DESCRIPTION	BY	APPROVED
ORIGINAL	FH/ED	
		DATE
		FILMED
CHECKED BY: MANYAR NAVI PROJECT ENGINEER		
214-1695 CCS27 COORDINATE		
6256407-1854444 CCS83 COORDINATE		
CONTRACTOR	DATE STARTED	
INSPECTOR	DATE COMPLETED	
		35372-37-D

WORK BY CITY FORCES



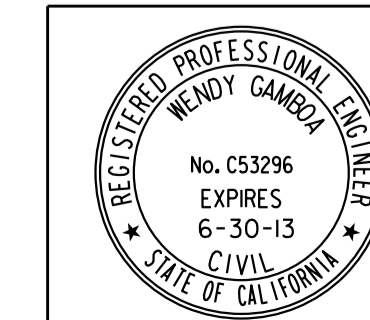
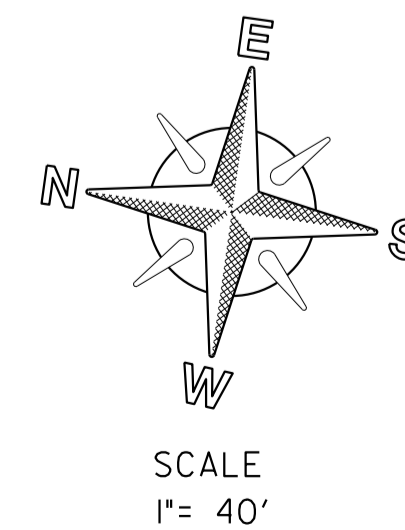
LEGEND:

PROPOSED SEWER MAIN	
PROPOSED SEWER MANHOLE	
REPLUMB SEWER LATERAL WITH C.O.'s	
PROPOSED CLEANOUT (CO)	
CUT AND PLUG	

NOTES FOR ALL REPLUMBS:

1. CONTRACTOR TO VERIFY THE CONNECTION PT., IE, LOCATION OF EXISTING LATERAL AND COORDINATE INSTALLATION OF NEW LATERAL WITH THE PROPERTY OWNER.
2. CONTRACTOR TO REMOVE AND/OR REPLACE ALL EXISTING IMPROVEMENTS AS REQUIRED FOR NEW LATERAL CONSTRUCTION. REPLACE ALL DAMAGED IMPROVEMENTS TO MATCH EXISTING CONDITIONS, LIKE AND KIND.
3. CONTRACTOR SHALL INSTALL PLUG TO SLURRY FILL AND CONCRETE CAP OLD MAIN DURING REPLUMBING OF SEWER LATERAL.

EXHIBIT A
 (SEWER LATERAL REPLUMB WORK)
 ADDRESS: 2551 WORDEN STREET



SEWER GROUP JOB 758 REPLUMB DETAILS.			
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 38 OF 44 SHEETS			SEWER WBS B-00365
APPROVED: <i>[Signature]</i> FOR CITY ENGINEER	DATE 12-21-12	SUBMITTED BY: LUIS SCHAAR ASSOCIATE ENGINEER	
DESCRIPTION ORIGINAL	BY ED/MN	APPROVED	DATE FILMED
CONTRACTOR			DATE STARTED
INSPECTOR			DATE COMPLETED
			MAHYAR NAVIZI PROJECT ENGINEER 210-1695 CCS27 COORDINATE 6256407-1850444 CCS83 COORDINATE 35372-38-D

C-28

REPLUMB DETAILS

SEWER

Element	STATION	NORTHING	EASTING
Element: Linear PI(101) POB(101) PI(102) Tangential Direction: Tangential Length:	1+00.00 3+20.87 S 4°17'55" E 220.87	1855102.18 1854881.92	6261445.62 6261462.17
Element: Linear PI(102) PI(103) Tangential Direction: Tangential Length:	3+20.87 5+73.15 S 10°01'26" E 232.93	1854881.92 1854652.55	6261462.17 6261502.72
Element: Linear PI(103) PC(104) Tangential Direction: Tangential Length:	5+73.15 8+77.52 S 12°40'21" E 323.71	1854652.55 1854336.72	6261502.72 6261573.73
Element: Circular PC(104) PI() CC(105) PT(106) Radius: Delta: Degree of Curvature(Chord): Length: Tangent: Chord: Middle Ordinate: External: Tangent Direction: Radial Direction: Chord Direction: Radial Direction: Tangent Direction:	8+77.52 9+30.72 9+81.52 212.12 29°49'53" Right 28°59'39" 104.00 53.21 102.83 6.73 6.97 S 5°18'38" W N 84°41'22" W S 20°13'37" W N 54°51'24" W S 35°08'36" W	1854336.72 1854283.74 1854355.21 1854240.24	6261573.73 6261568.81 6261374.85 6261538.18
Element: Linear PI(106) PI(107) Tangential Direction: Tangential Length:	9+81.52 11+83.07 S 36°09'47" W 168.22	1854240.24 1854104.43	6261538.18 6261438.92
Element: Linear PI(107) PI(108) Tangential Direction: Tangential Length:	11+83.07 15+44.16 S 36°09'45" W 395.88	1854104.43 1853784.82	6261438.92 6261205.32
Element: Linear PI(108) PI(109) Tangential Direction: Tangential Length:	15+44.16 17+96.95 S 53°19'49" E 251.34	1853784.82 1853634.72	6261205.32 6261406.92
Element: Linear PI(109)	17+96.95	1853634.72	6261406.92
Element: Linear PI(110) PI(111) Tangential Direction: Tangential Length:	20+37.50 20+77.52 S 37°06'11" W 30.61	1853485.37 1853460.96	6261607.36 6261588.90
Element: Linear PI(111) PI(112) Tangential Direction: Tangential Length:	20+77.52 23+67.83 S 37°06'11" W 290.31	1853460.96 1853229.42	6261588.90 6261413.76
Element: Linear PI(112) PI(113) Tangential Direction: Tangential Length:	23+67.83 26+70.19 S 37°06'11" W 302.38	1853229.42 1852984.99	6261413.76 6261413.76
Element: Linear PI(113) PI(114) Tangential Direction: Tangential Length:	26+70.19 28+77.76 S 9°14'20" E 207.55	1852984.99 1852780.13	6261235.75 6261269.07
Element: Linear PI(114) PI(115) Tangential Direction: Tangential Length:	28+77.76 30+22.51 S 29°34'34" W 144.76	1852780.13 1852654.23	6261269.07 6261197.62
Element: Linear PI(115) PI(116) Tangential Direction: Tangential Length:	30+22.51 32+40.69 S 4°08'02" W 218.16	1852654.23 1852436.63	6261197.62 6261181.89
Element: Linear PI(116) PI(117) Tangential Direction: Tangential Length:	32+40.69 34+06.27 S 30°38'44" W 165.57	1852436.63 1852294.18	6261181.89 6261097.50
Element: Linear PI(117) PI(118) Tangential Direction: Tangential Length:	34+06.27 36+55.49 S 32°39'29" W 249.20	1852294.18 1852084.38	6261097.50 6260963.02
Element: Linear PI(118) PI(119) Tangential Direction: Tangential Length:	36+55.49 39+69.46 S 33°40'00" W 313.97	1852084.38 1851823.06	6260963.02 6260788.97

Element: Linear PI(119) PI(120) Tangential Direction: Tangential Length:	39+69.46 42+72.42 S 32°01'44" W 302.97	1851823.06 1851566.21	6260788.97 6260628.29
Element: Linear PI(120) POE(121) Tangential Direction: Tangential Length:	42+72.42 44+62.15 S 2°05'14" E 189.74	1851566.21 1851376.60	6260628.29 6260635.20
* Alignment name: sht 9 to 13 * Alignment description: alg 9 to 11 * Alignment style: Default * Input Factor: 1.00000000			
Element: Circular PC(121) PCC(122) Radius: Delta: Degree of Curvature(Chord): Length: Tangent: Chord: Middle Ordinate: External: Tangent Direction: Radial Direction: Chord Direction: Radial Direction: Tangent Direction:	1+00.00 2+63.75 850.00 11°02'17" Left 163.75 82.13 163.50 3.94 S 46°36'56" W N 43°23'04" W S 41°05'47" W S 35°34'39" W	1854169.41 1854046.20	6262659.34 6262551.87
Element: Circular PCC(122) PI(123) Radius: Delta: Degree of Curvature(Chord): Length: Tangent: Chord: Middle Ordinate: External: Tangent Direction: Radial Direction: Chord Direction: Radial Direction: Tangent Direction:	2+63.75 5+52.72 1569.04 10°35'35" Left 290.09 145.46 289.68 6.70 6.73 S 39°37'22" W N 50°22'38" W S 34°19'35" W N 60°58'13" W S 29°01'47" W	1854046.20 1853806.97	6262551.87 6262388.52
Element: Linear PI(123) PI() Tangential Direction: Tangential Length:	5+52.72 8+06.35 S 33°44'46" W 252.51	1853806.97 1853597.01	6262388.52 6262248.25
Element: Circular PC() PI() CC() PT() Radius: Delta: Degree of Curvature(Chord): Length: Tangent: Chord: Middle Ordinate: External: Tangent Direction: Radial Direction: Chord Direction: Radial Direction: Tangent Direction:	8+06.35 8+83.36 9+58.46 395.59 22°01'50" Left 14°31'21" 152.11 77.00 151.17 7.29 7.43 N 47°34'19" W S 31°24'46" W N 69°36'09" W S 20°23'51" W S 34°19'35" W 8+09.00 1+00.00 S 33°44'46" W 252.51	1853597.01 1853540.17 1853330.12 1853467.99	6262248.25 6262196.29 6262540.24 6262169.46
Element: Linear PI(124) PI(125) Tangential Direction: Tangential Length:	1+00.00 10+64.97 S 31°48'44" W 259.22	1853597.01 1853376.73	6262248.25 6262111.60
Element: Linear PI(125) PI(126) Tangential Direction: Tangential Length:	10+64.97 13+52.44 S 48°30'18" W 285.59	1853376.73 1853187.51	6262111.60 6261897.69
Element: Circular PC(126) PI(127) CC() PCC(127) Radius: Delta: Degree of Curvature(Chord): Length: Tangent: Chord: Middle Ordinate: External: Tangent Direction: Radial Direction: Chord Direction: Radial Direction: Tangent Direction:	13+52.44 14+75.22 14+75.22 20°25'35" Left 20°25'35" 124.44 62.88 123.78 5.52 5.60 S 22°16'54" W N 67°43'06" W S 12°05'46" W N 88°05'22" W S 1°54'38" W	1853187.51 1853129.32 1853054.80 1853066.47	6261897.69 6261873.85 6262221.56 6261871.75
Element: Linear PI(127) PI(128) CC() PT()	14+75.22 16+27.12 16+27.12	1853066.47 1852990.91 1853109.77 1852946.31	6261871.75 6261888.51 6262067.01 6261951.76

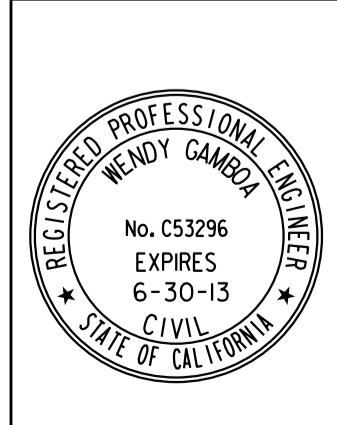
Element: Linear PI(128) PI(129) Tangential Direction: Tangential Length:	16+27.12 18+69.93 S 37°00'58" W 242.77	1852946.31 1852752.47	6261951.76 6261805.60
Element: Linear PI(129) POE(130) Tangential Direction: Tangential Length:	18+69.93 20+89.73 S 36°33'39" W 219.82	1852752.47 1852575.90	6261805.60 6261674.66
* Alignment name: larga st. * Alignment description: alg. larga st. * Alignment style: Default * Input Factor: 1.00000000			
Element: Circular PC(131) PI(132) PCC(133) Radius: Delta: Degree of Curvature(Chord): Length: Tangent: Chord: Middle Ordinate: External: Tangent Direction: Radial Direction: Chord Direction: Radial Direction: Tangent Direction:	1+00.00 1+56.92 2+09.16 850.00 11°02'17" Left 163.75 82.13 163.50 3.94 3.96 S 46°36'56" W N 43°23'04" W S 41°05'47" W N 54°25'21" W S 35°34'39" W	1854169.41 1854113.00	6262659.34 6262599.65
Element: Circular PCC(133) PI(134) CC() PT() Radius: Delta: Degree of Curvature(Chord): Length: Tangent: Chord: Middle Ordinate: External: Tangent Direction: Radial Direction: Chord Direction: Radial Direction: Tangent Direction:	2+09.16 4+24.84 5+65.36 1569.04 10°35'35" Left 290.09 145.46 289.68 6.70 6.73 S 39°37'22" W N 50°22'38" W S 34°19'35" W N 60°58'13" W S 29°01'47" W	1854046.20 1853934.16 1853045.57 1853806.97	6262551.87 6262459.10 6263760.44 6262388.52
Element: Linear PI(136) PI(137) PT(138) Radius: Delta: Degree of Curvature(Chord): Length: Tangent: Chord: Middle Ordinate: External: Tangent Direction: Radial Direction: Chord Direction: Radial Direction: Tangent Direction:	07+7.50 8+78.55 10+34.26 395.59 22°01'50" Left 14°31'21" 152.11 77.00 151.17 7.29 7.43 N 47°34'19" W S 31°24'46" W N 69°36'09" W S 20°23'51" W	1853806.97 1853540.17 1853467.99	6262388.52 6262196.29 6262169.46
Element: Linear PC(138) Tangential Direction: Tangential Length:	10+34.26 S 32°22'15" W 108.06	1853376.73	6262111.60
Element: Circular PC(138) PCC(139) Radius: Delta: Degree of Curvature(Chord): Length: Tangent: Chord: Middle Ordinate: External: Tangent Direction: Radial Direction: Chord Direction: Radial Direction: Tangent Direction:	10+34.26 13+35.34 1688.17 9°42'15" Left 3°23'40" 285.93 143.31 285.59 6.05 6.07 S 53°21'25" W N 36°38'35" W S 48°30'18" W N 46°20'50" W S 43°39'10" W	1853376.73 1853187.51	6262111.60 6261897.69
Element: Linear PI(140) PI()	14+00.00 14+00.00	1853187.51 1853125.87	6261897.69 6261867.23
* Alignment name: Kingsley St. * Alignment description: alg Kingsley st. * Alignment style: Default * Input Factor: 1.00000000			

Element	STATION	NORTHING	EASTING
Element: Linear POB(141) PI(142) Tangential Direction: Tangential Length:	1+00.00 3+84.61 N 75°12'20" W 284.61	1853406.01 1853478.69	6263981.80 6263706.63
Element: Linear PI(142) PI(143) Tangential Direction: Tangential Length:	3+84.61 5+18.36 S 75°01'04" W 63.60	1853478.69 1853462.24	6263706.63 6263645.19
Element: Circular PC(143) PI() CC(144) PT(144) Radius: Delta: Degree of Curvature(Chord): Length: Tangent: Chord: Middle Ordinate: External: Tangent Direction: Radial Direction: Chord Direction: Radial Direction: Tangent Direction:	5+18.36 5+21.39 5+94.14 681.67 12°15'21" Right 8°24'46" 145.81 73.18 145.53 3.89 S 75°13'44" W N 14°46'16" W S 81°21'25" W N 2°30'55" W S 87°29'05" W	1853462.24 1853443.59 1854121.39 1853440.37	6263645.19 6263574.43 6263471.40 6263501.31
Element: Linear PT(144) POE(145) Tangential Direction: Tangential Length:	5+94.14 7+00.00 N 56°19'50" W 106.03	1853440.37 1853499.16	6263501.31 6263413.06
Element: Linear POB(146) POE(147) Tangential Direction: Tangential Length:	1+00.00 2+99.23 N 60°42'26" W 176.28	1854031.42 1854117.67	6264259.67 6264105.93
* Alignment name: Camto Zocolo * Alignment description: alg Camto Zocolo * Alignment style: Default * Input Factor: 1.00000000			
Element: Linear PI(148) PI(149) Tangential Direction: Tangential Length:	1+00.00 2+55.00 S 35°59'59" W 155.00	1852668.90 1852543.50	6261034.61 6260943.50
Element: Linear PI(149) POE(150) Tangential Direction: Tangential Length:	2+55.00 4+23.00 S 36°00'00" W 168.00	1852543.50 1852407.58	6260943.50 6260844.75
* Alignment name: Camto Dehesa * Alignment description: alg Camto Dehesa * Alignment style: Default * Input Factor: 1.00000000			
Element: Linear POB(149) PI(151) Tangential Direction: Tangential Length:	1+00.00 2+99.00 N 54°00'01" W 199.00	1852543.50 1852660.47	6260943.50 6260782.51
Element: Linear PI(151) PI(152) Tangential Direction: Tangential Length:	2+99.00 3+40.00 S 53°08'34" W 41.00	1852660.47 1852635.87	6260782.51 6260749.70
Element: Linear PI(152) POE(153) Tangential Direction: Tangential Length:	3+40.00 5+18.00 N 36°51'26" W 178.00	1852635.87 1852778.30	6260749.70 6260642.93
* Alignment name: Worden St 2 * Alignment description: alg Worden St. * Alignment style: Default * Input Factor: 1.00000000			

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**SEWER AND WATER
GROUP 758
HORIZONTAL ALIGNMENT**

CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 39 OF 44 SHEETS		SEWER W.O. B-00365
APPROVED: <i>[Signature]</i> FOR CITY ENGINEER	DATE 12-21-12	SUBMITTED BY: LUIS SCHAAR ASSOCIATE ENGINEER
DESCRIPTION ORIGINAL	BY ED/MN	CHECKED BY: MAHYAR NAVIZI PROJECT ENGINEER
		SEE SHEETS CCS27 COORDINATE
		SEE SHEETS CCS88 COORDINATE
CONTRACTOR _____ DATE STARTED _____		35372-39-D
INSPECTOR _____ DATE COMPLETED _____		



HORIZONTAL ALIGNMENT

Element	STATION	NORTHING	EASTING
Element: Linear POB(154) PC(155) Tangential Direction: Tangential Length:	1+00.00 3+60.51 S 36°46'29" W 260.36	1853397.97 1853189.42	6261673.66 6261517.79
Element: Circular PC(155) PI() CC(155) PT(155) Radius: Delta: Degree of Curvature(Chord): Length: Tangent: Chord: Middle Ordinate: External: Tangent Direction: Radial Direction: Chord Direction: Radial Direction: Tangent Direction:	3+60.51 3+60.51 3+60.51 3+60.51 310.00 0°03'14" Right 18°33'49" 0.29 0.15 0.29 0.00 0.00 S 36°46'29" W N 53°13'31" W S 36°48'06" W N 53°10'17" W S 36°49'43" W	1853189.42 1853189.30 1853375.01 1853189.19	6261517.79 6261517.70 6261269.48 6261517.61
Element: Linear PT(155) POE(156) Tangential Direction: Tangential Length:	3+60.51 6+21.09 S 36°49'43" W 260.50	1853189.19 1852980.68	6261517.61 6261361.47
* Alignment name: Walkway-1 * Alignment description: alg Walkway-1 * Alignment style: Default * Input Factor: 1.00000000			
Element: Linear POB(157) POE(158) Tangential Direction: Tangential Length:	1+00.00 3+50.00 S 53°14'05" E 250.00	1853194.58 1853044.95	6260916.62 6261116.89
* Alignment name: Walkway-2 * Alignment description: alg Walkway-2 * Alignment style: Default * Input Factor: 1.00000000			
Element: Linear POB(159) POE(160) Tangential Direction: Tangential Length:	1+00.00 3+08.00 N 53°24'06" W 208.00	1853235.53 1853359.54	6260947.02 6260780.03
* Alignment name: Bob St * Alignment description: alg Bob St * Alignment style: Default * Input Factor: 1.00000000			
Element: Linear POB(161) PI(162) Tangential Direction: Tangential Length:	1+00.00 4+17.66 S 51°55'17" E 336.32	1854336.72 1854129.30	6261573.73 6261838.47
Element: Linear PI(162) POE(163) Tangential Direction: Tangential Length:	4+17.66 6+16.00 S 53°08'28" E 208.05	1854129.30 1854004.50	6261838.47 6262004.93
* Alignment name: Bob-2 * Alignment description: alg Bob St-2 * Alignment style: Default * Input Factor: 1.00000000			
Element: Linear POB(164) PI(165) Tangential Direction: Tangential Length:	6+44.37 8+42.35 N 48°18'54" E 197.68	1854004.50 1854135.97	6262004.93 6262152.56
Element: Linear PI(165) PC(166) Tangential Direction: Tangential Length:	8+42.35 11+24.23 N 35°40'28" E 334.00	1854135.97 1854407.29	6262152.56 6262347.35
Element: Circular PC(166) PI() CC(167) PT(168) Radius: Delta: Degree of Curvature(Chord): Length: Tangent: Chord: Middle Ordinate: External: Tangent Direction: Radial Direction: Chord Direction: Radial Direction: Tangent Direction:	11+24.23 11+24.23 8+10.55 903.91 11°20'17" Left 6°20'31" 178.87 89.73 178.58 4.42 4.44 N 62°32'37" E S 27°27'23" E N 56°52'29" E S 38°47'40" E N 51°12'20" E	1854407.29 1854407.66 1855209.39 1854504.88	6262347.35 6262426.97 6261930.58 6262496.90
Element: Linear PI(167) Tangential Direction: Tangential Length:	9+30.00 N 51°34'06" E 120.35	1854579.69	6262591.18
Element: Linear PI(167) POE(168) Tangential Direction: Tangential Length:	9+30.00 10+40.00 N 48°09'17" E 110.00	1854579.69 1854653.07	6262591.18 6262673.12
* Alignment name: Amaryllis st. * Alignment description: alg Amaryllis * Alignment style: Default * Input Factor: 1.00000000			

Element	STATION	NORTHING	EASTING
Element: Linear PI(169) PI(169) Tangential Direction: Tangential Length:	1+00.00 2+47.79 S 39°37'25" E 109.65	1853567.63 1853483.17	6262272.57 6262342.50
Element: Linear PI(169) POE(170) Tangential Direction: Tangential Length:	2+47.79 5+80.00 S 35°40'29" W 332.20	1853483.17 1853213.31	6262342.50 6262148.77
* Alignment name: Worden upper * Alignment description: alg Worden Upper * Alignment style: Default * Input Factor: 1.00000000			
Element: Linear POB(171) PC(172) Tangential Direction: Tangential Length:	1+00.00 1+70.87 N 36°48'04" E 70.87	1853397.97 1853454.72	6261673.66 6261716.11
Element: Circular PC(172) PI() CC(173)	1+70.87 1+71.10	1853454.72 1853454.90 1853640.42	6261716.11 6261716.25 6261467.89
Element: Linear POE(173) Tangential Direction: Tangential Length:	5+70.00 N 36°43'04" E 146.17	1853771.58	6261952.45
* Alignment name: walkway-3 * Alignment description: alg Walkway-3 * Alignment style: Default * Input Factor: 1.00000000			
Element: Linear POB(108) PC(174) Tangential Direction: Tangential Length:	1+00.00 2+68.47 S 24°33'15" W 163.70	1853784.82 1853635.93	6261205.32 6261137.29
Element: Linear PC(174) PI() CC(175)	2+68.47 2+68.47	1853635.93 1853507.10	6261137.29 6261219.26
Element: Linear PI(175) CC(175)	5+14.60	1853404.68 1853539.74	6261039.96 6260760.46
Element: Linear PI(176) CC(176)	7+07.60	1853235.53 1853403.36	6260947.02 6260685.52
* Alignment name: Curtis St * Alignment description: Curtis St * Alignment style: Default * Input Factor: 1.00000000			
Element: Linear POB(128) PC(177) Tangential Direction: Tangential Length:	1+00.00 3+24.00 S 53°29'47" E 223.92	1852436.63 1852303.43	6261181.89 6261361.88
Element: Circular PC(177) PI() CC(177)	3+24.00 3+24.00	1852303.43 1852303.38 1852054.25	6261361.88 6261361.95 6261177.47
Element: Circular PC(178) PI(178) CC(178)	4+23.00 4+23.00	1852244.53 1852244.44 1851995.44	6261441.38 6261441.50 6261256.84
Element: Circular PC(179) PI() CC(179) PT(179)	5+58.00 5+58.00	1852164.06 1852163.98 1852412.98 1852163.90	6261549.78 6261549.90 6261734.55 6261550.01
Element: Linear PI(180) Tangential Direction: Tangential Length:	8+71.00 S 53°27'55" E 312.86	1851977.65	6261801.39
Element: Linear PI(180) POE(181) Tangential Direction: Tangential Length:	8+71.00 11+57.20 S 17°19'38" W 286.20	1851977.65 1851704.43	6261801.39 6261716.15
* Alignment name: Umbral St * Alignment description: alg Umbral St. * Alignment style: Default * Input Factor: 1.00000000			
Element: Linear POB(182) POE(182) Tangential Direction: Tangential Length:	1+00.00 2+31.00 N 54°36'43" E 131.01	1852407.58 1852483.66	6260844.76 6260738.10
* Alignment name: Nipoma PL * Alignment description: alg Nipoma PL * Alignment style: Default * Input Factor: 1.00000000			
Element: Circular PC(183) POE() Radius: Degree of Curvature(Chord): Length: Tangent: Chord: Middle Ordinate: External: Tangent Direction: Radial Direction: Chord Direction: Radial Direction: Tangent Direction:	1+00.00 3+4.21 350.00 16°25'35" 242.10 62.88 123.78 5.52 5.60 S 22°16'54" W N 67°43'06" W S 12°05'46" W N 88°05'22" W S 1°54'38" W	1853187.51 1853213.31	6261897.69 6262148.77

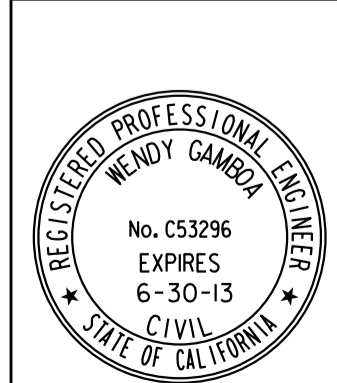
Element	STATION	NORTHING	EASTING
Element: Linear PI(184) PI(184) Tangential Direction: Tangential Length:	1+00.00 1+00.00 S 39°37'25" E 109.65	1853567.63 1853483.17	6262272.57 6262342.50
Element: Linear PT(184) Radius: Delta: Degree of Curvature(Chord): Length: Tangent: Chord: Middle Ordinate: External: Tangent Direction: Radial Direction: Chord Direction: Radial Direction: Tangent Direction:	3+4.21 156.37 22°01'50" Left 14°31'21" 204.21 77.00 151.17 7.29 7.43 S 42°25'41" W N 47°34'19" W S 31°24'46" W N 69°36'09" W S 20°23'51" W	1853467.99	6262169.46
Element: Linear POB(185) PI(185) Tangential Direction: Tangential Length:	1+00.00 1+56.92 S 4°17'55" E 56.92	1855102.18 1854881.92	6261445.62 6261462.17
Element: Linear PI(185)	1+56.92	1854881.92	6261462.17
* Alignment name: west pt. loma blvd. * Alignment description: alg w.pt. loma blvd. * Alignment style: Default * Input Factor: 1.00000000			
Element: Linear POB(186) PI(187) Tangential Direction: Tangential Length:	1+00.00 1+10.00 S 4°17'55" E 10.00	118803.2670 118793.3187	131939.3936 131938.3759
Element: Linear POB(187) PI(188) Tangential Direction: Tangential Length:	1+10.00 1+21.49 S 10°12'55" E 11.49	118793.3187 118781.8836	131938.3759 131937.2416
Element: Linear POB(188) PI(189) Tangential Direction: Tangential Length:	1+21.49 1+44.82 S 4°17'55" E 23.33	118781.8836 118758.66.59	131937.2416 131912.3480
Element: Linear POB(189) PI(190) Tangential Direction: Tangential Length:	1+44.82 3+27.91 S 4°17'55" E 183.09	118758.66.59 118577.0631	131934.9291 131934.9291
Element: Linear POB(190) PI(191) Tangential Direction: Tangential Length:	3+27.91 3+27.91 S 358°02'55" E 71.90	118577.0631 118590.6723	131934.9291 131841.7499
Element: Linear POB(191) PI(192) Tangential Direction: Tangential Length:	3+27.91 3+62.65 S 358°02'55" E 34.74	118590.6723 118542.8786	131841.7499 1318906.1783
Element: Linear POB(192) PI(193) Tangential Direction: Tangential Length:	3+62.65 3+62.65 S 358°02'55" E 25.01	118542.8786 118538.7773	1318906.1783 131930.8520
Element: Linear PI(193) PI(194) Tangential Direction: Tangential Length:	3+62.65 4+89.51 S 358°02'55" E 126.86	118538.7773 118419.1692	131930.8520 131878.1773
Element: Linear PI(194) PI(195) Tangential Direction: Tangential Length:	4+89.51 5+00.00 S 358°02'55" E 10.49	118703.9600 118408.9850	131929.4549 131875.4992
Element: Circular PCC(196) PT(197) Radius: Delta: Degree of Curvature(Chord): Length: Tangent: Chord: Middle Ordinate: External: Tangent Direction: Radial Direction: Chord Direction: Radial Direction: Tangent Direction:	1+99.76 4+10.53 2293.0990 10°35'35" E 3°39'08" 289.47 145.46 289.68 6.70 6.73 S 39°37'22" W N 50°22'38" W S 34°19'35" W N 60°58'13" W S 29°01'47" W		

WATER

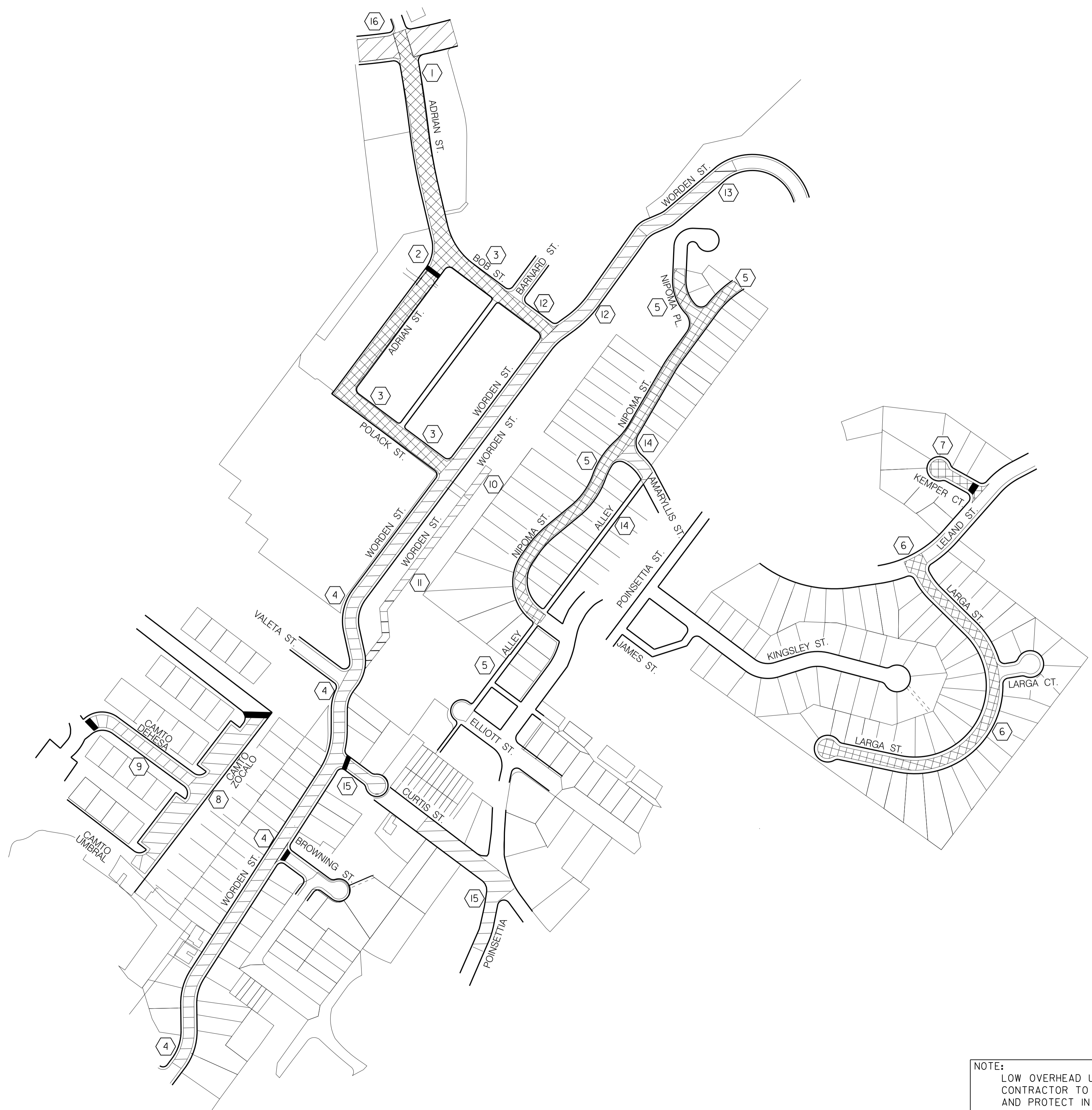
C-30

**SEWER AND WATER
GROUP 758
HORIZONTAL ALIGNMENT**

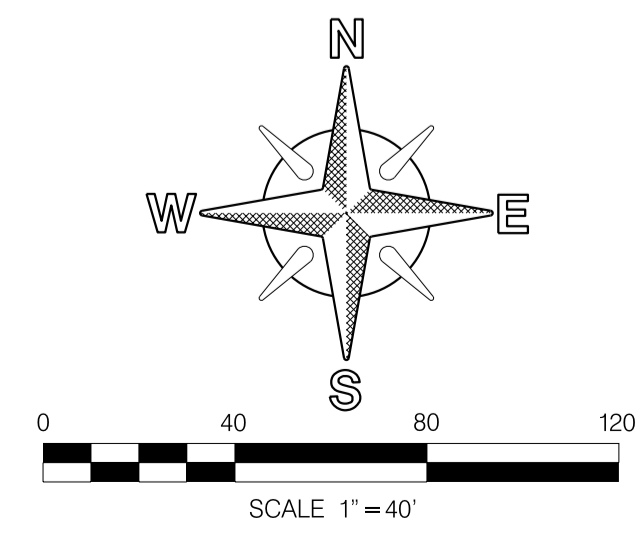
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 40 OF 44 SHEETS		SEWER W.G. B-00365
APPROVED: <i>[Signature]</i> FOR CITY ENGINEER	DATE 12-21-12	SUBMITTED BY: LUIS SCHAAR ASSOCIATE ENGINEER
DESCRIPTION ORIGINAL	BY ED/MN	CHECKED BY: MAHYAR NAVIZI PROJECT ENGINEER
		SEE SHEETS CCS27 COORDINATE
		SEE SHEETS CCS83 COORDINATE
CONTRACTOR	DATE STARTED	35372-40-D
INSPECTOR	DATE COMPLETED	



HORIZONTAL ALIGNMENT



NOTE:
LOW OVERHEAD UTILITIES
CONTRACTOR TO USE CAUTION
AND PROTECT IN PLACE.



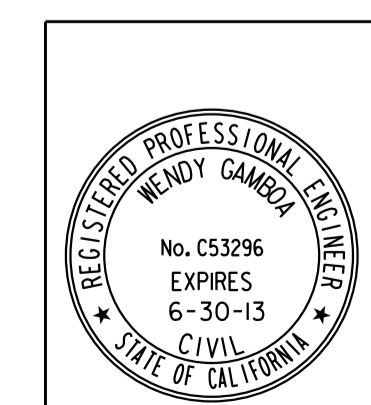
PAVING SCHEDULE NOTES						
NO.	LOCATION	RESTORATION REQUIRED	STATION	LENGHT	WIDTH	APPROX. AREA
1	ADRIAN STREET	AC OVERLAY	STA 1+00.00 TO STA 7+00.00	600'	19'	11400
2	ADRIAN STREET	AC OVERLAY	STA 7+00.00 TO STA 15+00.00	800'	19'	15200
3	POLACK STREET	AC OVERLAY	STA 15+00.00 TO STA 21+00.00	600'	40'	24000
3	BOB STREET	AC OVERLAY	STA 01+00.00 TO STA 04+00.00	300'	40'	12000
4	WORDEN STREET	SLURRY SEAL	STA 27+00.00 TO STA 33+00.00	600'	40'	24000
4	WORDEN STREET	SLURRY SEAL	STA 33+00.00 TO STA 39+00.00	600'	40'	24000
4	WORDEN STREET	SLURRY SEAL	STA 39+00.00 TO STA 4+62.15	563'	40'	22520
5	NIPOMA PL	AC OVERLAY	STA 1+00.00 TO STA 3+04.21	205'	50'	10250
5	NIPOMA STREET	AC OVERLAY	STA 1+00.00 TO STA 6+00.00	500'	40'	20000
5	NIPOMA STREET	AC OVERLAY	STA 6+00.00 TO STA 13+00.00	700'	40'	28000
5	NIPOMA STREET	AC OVERLAY	STA 16+29.04 TO STA 20+89.73	460'	40'	18400
6	LARGA STREET	AC OVERLAY	STA 1+00.00 TO STA 7+00.00	600'	33'	19800
6	LARGA STREET	AC OVERLAY	STA 7+00.00 TO STA 14+00.00	700'	33'	23100
7	KEMPER CT.	AC OVERLAY	STA 1+00.00 TO STA 2+99.23	200'	30'	6000
8	CAMTO ZOCALO	SLURRY SEAL	STA 1+00.00 TO STA 4+23.00	323'	30'	9690
9	CAMTO DEHESA	SLURRY SEAL	STA 1+00.00 TO STA 2+99.00	199'	26'	5174
10	WORDEN STREET	SLURRY SEAL	STA 1+00.00 TO STA 1+88.00	88'	48'	4224
11	WORDEN STREET	SLURRY SEAL	STA 1+00.00 TO STA 5+70.00	470'	48'	22560
12	BOB STREET	AC OVERLAY	STA 4+00.00 TO STA 6+00.00	200'	40'	8000
12	WORDEN STREET	SLURRY SEAL	STA 6+00.00 TO STA 11+00.00	500'	40'	20000
13	WORDEN STREET	SLURRY SEAL	STA 11+00.00 TO STA 15+84.99	485'	40'	19400
14	AMARYLLIS STREET	SLURRY SEAL	STA 1+00.00 TO STA 2+45.89	145'	40'	5800'
15	CURTIS STREET	SLURRY SEAL	STA 1+00.00 TO STA 11+47.00	825'	32'	26400
16	WEST PT. LOMA BLVD.	SLURRY SEAL	STA 1+00.00 TO STA 5+00.00	400'	86'	34400
TOTAL AREA OF AC OVERLAY (SF)						196150
TOTAL AREA OF SLURRY SEAL (SF)						218168

LEGEND	
	APPROXIMATE LOCATION OF AC OVERLAY
	APPROXIMATE LOCATION OF SLURRY SEAL
	LOCATION PER PAVING SCHEDULE NOTES (THIS SHEET)
	EX. CONCRETE CROSS GUTTER

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SEWER AND WATER
GROUP JOB 758
STREET RESURFACING

CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 41 OF 44 SHEETS		SEWER WBS B-00365 WATER WBS B-00074
APPROVED: <i>[Signature]</i> FOR CITY ENGINEER	DATE 12-21-12	SUBMITTED BY: LUIS SCHAAR ASSOCIATE ENGINEER
DESCRIPTION ORIGINAL	BY ED/MN	CHECKED BY: MAHYAR NAVIZI PROJECT ENGINEER
	APPROVED DATE FILMED	210-1695 CCS27 COORDINATE 6256407-1850444 CCS83 COORDINATE
CONTRACTOR	DATE STARTED	35372-41-D
INSPECTOR	DATE COMPLETED	



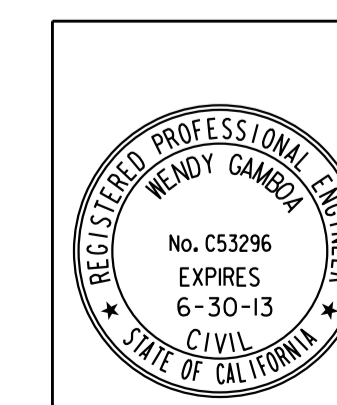
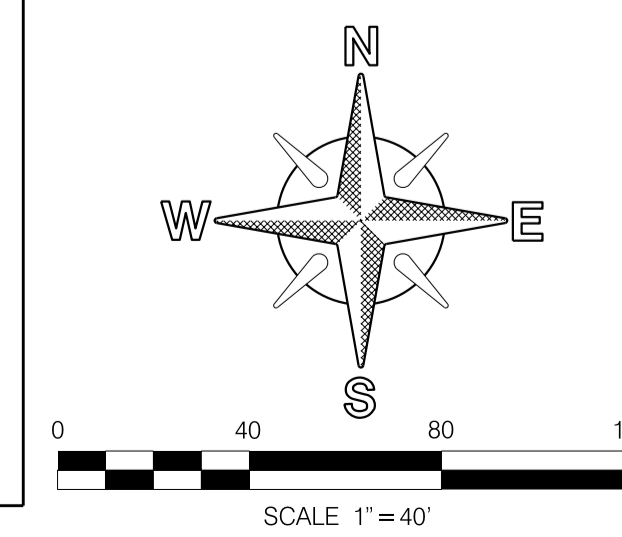


CURB RAMP NOTES TABLE								
LOCATION NO.	RAMP TYPE	NEW	REPLACEMENT	HISTORIC STAMPS	TRUNCATED DOME MATERIAL		CONSTRAINTS	COMMENTS / MODIFICATIONS
					STAINLESS STEEL	OTHER		
1	CI	-	X	-	X	-		N/A
2	CI	-	X	-	X	-		N/A
3	CI	-	X	-	-	X		N/A
4	CI	X	-	-	-	X		N/A
5	CI	-	X	-	-	X		N/A
6	CI	-	X	-	-	X		N/A
7	CI	-	X	-	-	X		N/A
8	CI	-	X	-	-	X		N/A
9	CI	-	X	1	-	X		N/A
10	CI	X	-	-	-	X		N/A
11	CI	X	-	-	-	X		N/A
12	CI	X	-	-	-	X		N/A
13	C2	X	-	-	-	X		N/A
14	CI	X	-	-	-	X		N/A
15	C2	X	-	-	-	X		N/A
16	CI	X	-	-	-	X		N/A
17	CI	X	-	-	-	X		N/A
18	C2	X	-	-	-	X		N/A
19	C2	X	-	-	-	X		N/A
20	C2	X	-	1	-	X		N/A
21	CI	X	-	-	-	X		N/A
22	C2	X	-	-	-	X		N/A
23	C2	X	-	-	-	X		N/A
24	D	X	-	-	-	X		N/A
25	D	X	-	2	-	X		N/A
26	C2	X	-	-	-	X		N/A
27	C2	X	-	-	-	X		N/A
28	CI	-	X	-	-	X		N/A
29	CI	-	X	-	-	X		N/A
30	C2	-	X	-	-	X		N/A
31	C2	-	X	-	-	X		N/A
32	D	X	-	-	-	X		N/A
33	D	X	-	-	-	X		N/A

THE DETECTABLE WARNING TILES SHALL BE PER THE CITY'S APPROVED MATERIALS LIST

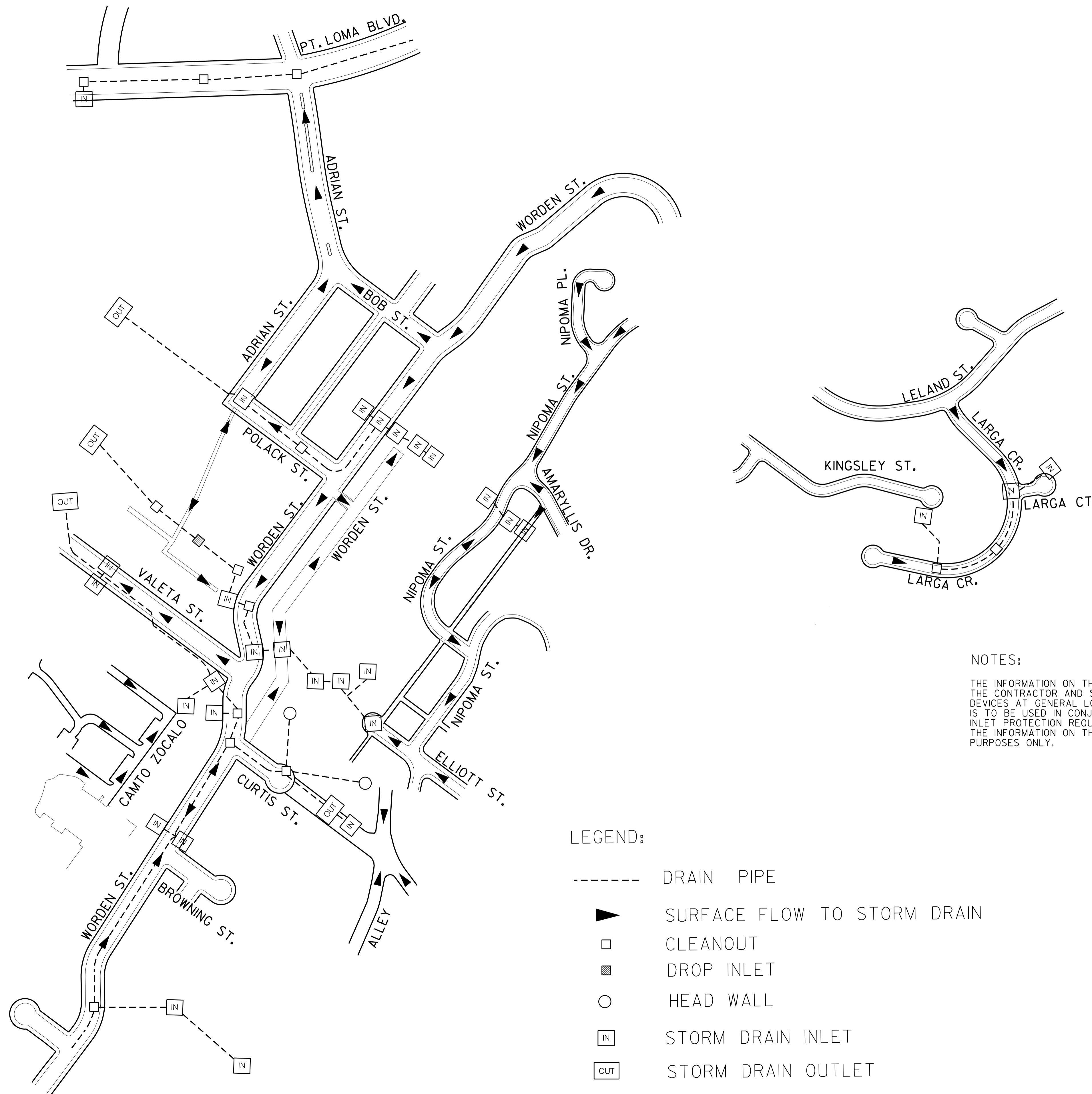
NOTE:
CONTRACTOR TO NOTIFY SURVEYING 30 DAYS
PRIOR TO REMOVAL OF SIDEWALK FOR CURB RAMP
CONSTRUCTION TO RELOCATE ANY SURVEY MARKERS.

LEGEND	
⑧	CURB RAMP NO's
•	EX UTILITY POLE
□	EX FIRE HYDRANT
PROPOSED CURB RAMPS PER STANDARD DRAWINGS:	
GENERAL CURB RAMP NOTES AND SUPPLEMENTAL DETAILS	SDG-130
TYPE CI	SDG-134
TYPE C2	SDG-135
TYPE D	SDG-136
HISTORICAL STAMPS	SDG-115



SEWER AND WATER GROUP JOB 758 CURB RAMP PLAN				C-32
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 42 OF 44 SHEETS			SEWER WBS B-00365 WATER WBS B-00074	
APPROVED:	12-21-12		DATE	SUBMITTED BY: LUIS SCHAAR ASSOCIATE ENGINEER
FOR CITY ENGINEER	BY	APPROVED	DATE	CHECKED BY: MAHYAR NAVIZI PROJECT ENGINEER
DESCRIPTION	ED/MN	APPROVED	DATE	FILED
ORIGINAL				
				210-1695 CCS27 COORDINATE 6256407-1850444 CCS83 COORDINATE
CONTRACTOR	DATE STARTED	DATE COMPLETED		35372-42-D
INSPECTOR				

CURB RAMP PLAN

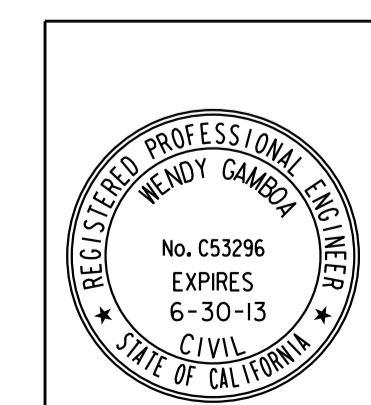


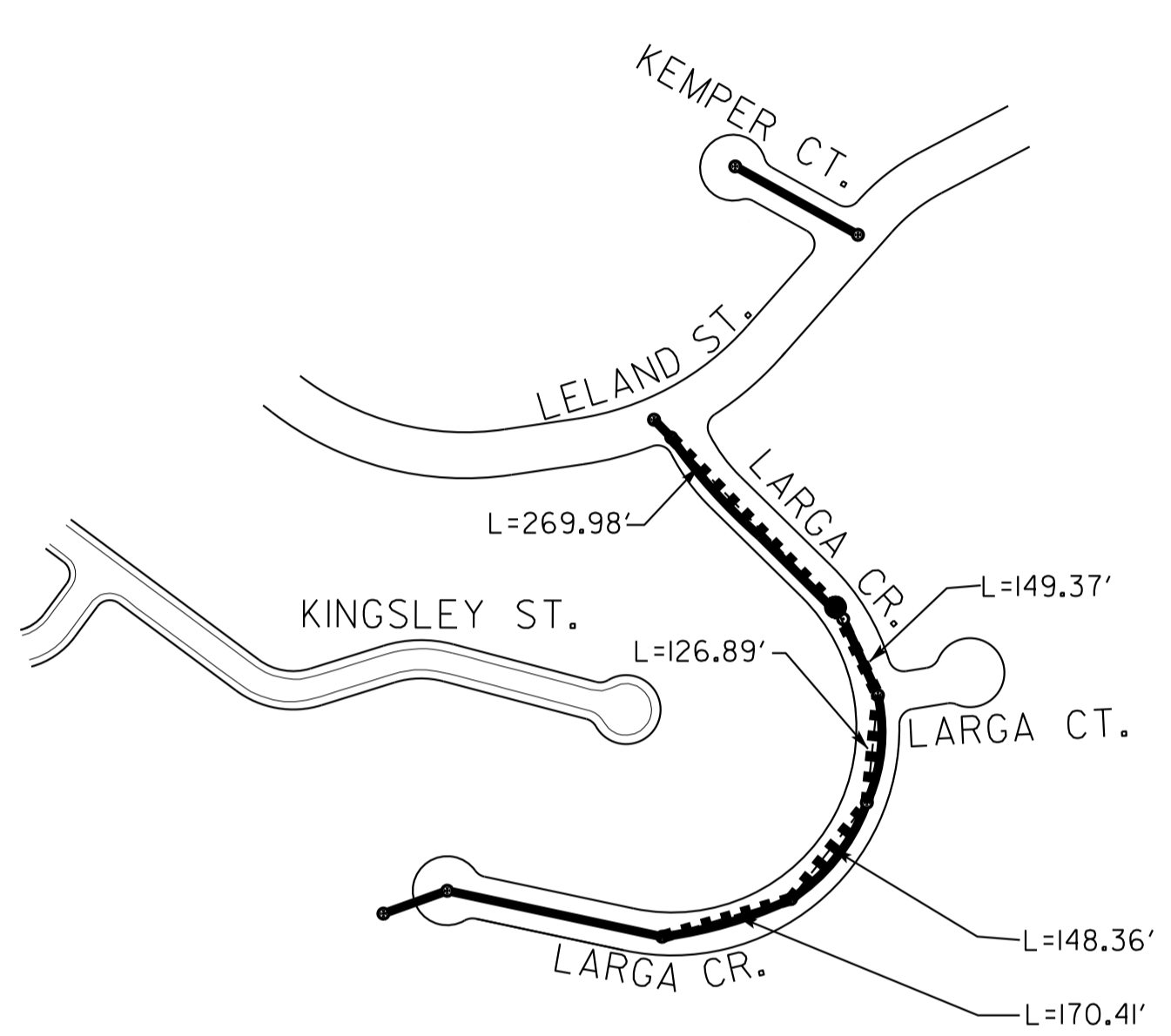
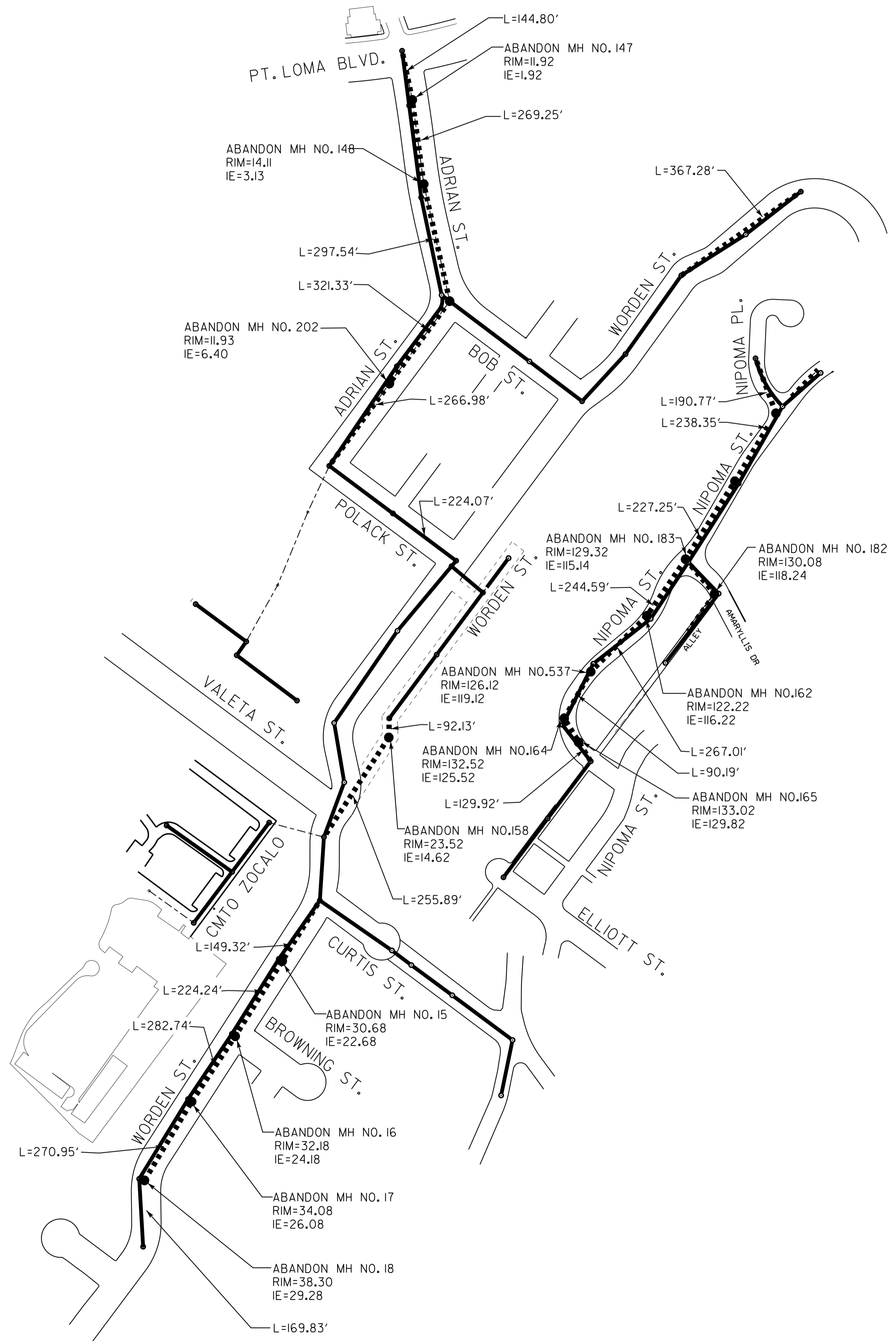
NOTES:
 THE INFORMATION ON THIS SITE PLAN IS INTENDED TO BE USED AS A GUIDELINE FOR THE CONTRACTOR AND SUBCONTRACTOR TO INSTALL WATER POLLUTION CONTROL DEVICES AT GENERAL LOCATIONS THROUGHOUT THE PROJECT SITE. THIS SITE PLAN IS TO BE USED IN CONJUNCTION WITH THE NARRATIVE SECTION OF THE WATER INLET PROTECTION REQUIRED AT ALL STORM DRAINS RECEIVING RUNOFF FROM DISTURBED SOIL AREAS. THE INFORMATION ON THE SITE PLAN IS ACCURATE FOR WATER POLLUTION CONTROL PURPOSES ONLY.

- LEGEND:
- DRAIN PIPE
 - ▶ SURFACE FLOW TO STORM DRAIN
 - CLEANOUT
 - ▣ DROP INLET
 - HEAD WALL
 - IN STORM DRAIN INLET
 - OUT STORM DRAIN OUTLET

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SEWER AND WATER GROUP 758 STORM DRAIN AND INLET PLAN				
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 43 OF 44 SHEETS				SEWER WBS B-00365
APPROVED: FOR CITY ENGINEER	<i>[Signature]</i>	DATE	12-21-12	SUBMITTED BY: LUIS SCHAAR ASSOCIATE ENGINEER
DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	ED/MN			
				MAHAR NAVIZI PROJECT ENGINEER
				182-1749 CCS27 COORDINATE
				6310407-1822444 CCS83 COORDINATE
CONTRACTOR	DATE STARTED			35372-43-D
INSPECTOR	DATE COMPLETED			

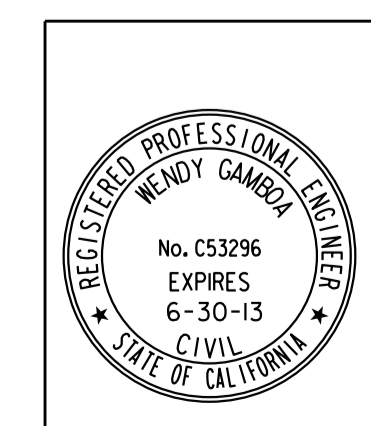




- LEGEND**
- PROPOSED SEWER MAIN
 - SEWER MAIN TO BE ABANDONED
 - EXISTING SEWER MAIN
 - MANHOLES TO BE ABANDONED
 - PROPOSED MANHOLE
 - EXISTING SEWER MAIN

MANHOLES TO BE ABAND'D = 14

SEWER MAINS TO BE ABAND'D = 8" VC -5,965 FT.



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SEWER AND WATER GROUP 758					SEWER WBS B-00365
SEWER MAIN & MANHOLE ABANDONMENT					
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 44 OF 44 SHEETS					
APPROVED FOR CITY ENGINEER	BY	APPROVED DATE	DATE	FILMED	SUBMITTED BY
<i>W. Campbell</i>			12-21-12		LUIS SCHAAR ASSOCIATE ENGINEER
DESCRIPTION ORIGINAL	ED/MN				MAHYAR NAVIZI PROJECT ENGINEER
					182-1749 CCS27 COORDINATE
					6310407-1822444 CCS83 COORDINATE
CONTRACTOR		DATE STARTED			35372-44-D
INSPECTOR		DATE COMPLETED			

SEWER MAIN & MANHOLE ABANDONMENT