

City of San Diego

CONTRACTOR'S NAME: Abhe & Svoboda, Inc.

ADDRESS: 880 Tavern Road, Alpine, CA 91901

TELEPHONE NO.: 619-659-1320 EMAIL.: danielmarkwell@abheonline.com

CITY CONTACT: Ronald McMinn, Contract Specialist, Email: RMcMinn@sandiego.gov

Phone No. (619) 533-4618

S. Rawsan / M. Jirjis Nakasha / L. Ambriz

BIDDING DOCUMENTS



OTAY WATER TREATMENT PLANT BASIN #1 CONCRETE RESTORATION

BID NO.: K-22-2054-DBB-3

SAP NO. (WBS/IO/CC): B-17092

CLIENT DEPARTMENT: 2000

COUNCIL DISTRICT: 8

PROJECT TYPE: BI

THIS CONTRACT WILL BE SUBJECT TO THE FOLLOWING:

- THE CITY'S SUBCONTRACTING PARTICIPATION REQUIREMENTS FOR SLBE PROGRAM
- PREVAILING WAGE RATES: STATE FEDERAL
- APPRENTICESHIP
- TWO TIER PREQUALIFICATION

2:00 PM

January 18, 2022

CITY OF SAN DIEGO'S ELECTRONIC BIDDING SITE, PLANETBIDS

<http://www.sandiego.gov/cip/bidopps/index.shtml>

ENGINEER OF WORK

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

E. I. Matthews

1) Registered Engineer

10/21/2021
Date

Seal:



PARITA AMMERLANN

2) For City Engineer

10/21/2021
Date

Seal:

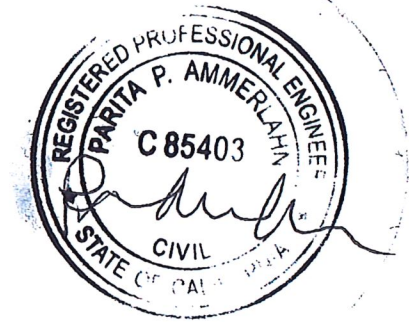


TABLE OF CONTENTS

SECTION	PAGE
1. REQUIRED DOCUMENTS SCHEDULE.....	4
2. NOTICE INVITING BIDS.....	5
3. INSTRUCTIONS TO BIDDERS	9
4. PERFORMANCE AND PAYMENT BONDS	19
5. ATTACHMENTS:	
A. SCOPE OF WORK.....	22
B. RESERVED.....	24
C. RESERVED.....	25
D. PREVAILING WAGE.....	26
E. SUPPLEMENTARY SPECIAL PROVISIONS.....	31
TECHNICALS	55
1. Appendix A - Notice if Exemption.....	230
2. Appendix B - Fire Hydrant Meter Program	233
3. Appendix C - Materials Typically Accepted by Certificate of Compliance.....	247
4. Appendix D - Sample City Invoice with Cash Flow Forecast.....	249
5. Appendix E - Location Map.....	252
6. Appendix F - Sample of Public Notice	254
F. RESERVED.....	256
G. CONTRACT AGREEMENT	257
6. CERTIFICATIONS AND FORMS.....	260

REQUIRED DOCUMENTS SCHEDULE DURING BIDDING AND AWARDING

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.

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

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

ITEM	DOCUMENT TO BE SUBMITTED	WHEN DUE	FROM
1.	Bid Bond (PDF via PlanetBids)	At Time of Bid	ALL BIDDERS
2.	Contractors Certification of Pending Actions	At Time of Bid	ALL BIDDERS
3.	Mandatory Disclosure of Business Interests	At Time of Bid	ALL BIDDERS
4.	Debarment and Suspension Certification for Prime Contractors	At Time of Bid	ALL BIDDERS
5.	Debarment and Suspension Certification for Subcontractors, Suppliers & Mfgs	At Time of Bid	ALL BIDDERS
6.	Bid Bond (Original)	By 5PM 3 working days after bid opening	ALL BIDDERS
7.	SLBE Good Faith Effort Documentation	By 5 PM 3 working days after bid opening	ALL BIDDERS
8.	Form AA60 – List of Work Made Available	By 5 PM 3 working days after bid opening with Good Faith Effort (GFE) documentation	ALL BIDDERS
9.	Payment & Performance Bond; Certificates of Insurance & Endorsements; and Signed Contract Agreement Page	Within 10 working days of receipt by bidder of contract forms and NOI	AWARDED BIDDER
10.	Listing of "Other Than First Tier" Subcontractors	Within 10 working days of receipt by bidder of contract forms	AWARDED BIDDER

NOTICE INVITING BIDS

- 1. Two Phase Prequalification:** This project requires a Phase II Pre-Qualification demonstrating experience on similar projects. The Phase II Prequalification submittal requirements and materials are attached on pages 7 and 8. The Phase II submittal documents are due no later than 2 weeks prior to bid opening.

Bidders are encouraged to submit the required Phase II Prequalification submittal documents as soon as possible so that they may be notified of their Phase II pre-qualification status. Phase II Prequalification document shall be submitted electronically to Ron McMinn at rmcminn@sandiego.gov.

Phase II Prequalification is open only to Bidders who are currently prequalified under the City's Phase I Contractor Prequalification Program. In the event you are not currently prequalified through the City's Contractor Prequalification Program, you shall submit your Phase I Prequalification via PlanetBids no later than 4 weeks prior to bid opening. You must also submit notification of the submission of your Phase I prequalification application to Ron McMinn at rmcminn@sandiego.gov.

Bidders submitting bids who have not been prequalified at both Phases will be deemed non-responsive and ineligible for award. Complete information and the prequalification questionnaire are available on the City's web site at <http://www.sandiego.gov/cip/bidopps/prequalification.shtml>.

- 2. SUMMARY OF WORK:** This is the City of San Diego's (City) solicitation process to acquire Construction services for **Otay WTP-Basin #1 Concrete Restoration** For additional information refer to Attachment A.
- 3. ESTIMATED CONSTRUCTION COST:** The City's estimated construction cost for this project is **\$1,710,000**.
- 4. BID DUE DATE AND TIME ARE: January 18, 2022, at 2:00pm**
- 5. PREVAILING WAGE RATES APPLY TO THIS CONTRACT:** Refer to Attachment D.
- 6. LICENSE REQUIREMENT:** To be eligible for award of this contract, Prime contractor must possess the following licensing classification: **A**
- 7. SUBCONTRACTING PARTICIPATION PERCENTAGES:** Subcontracting participation percentages apply to this contract.

7.1. The City has incorporated **mandatory** SLBE-ELBE subcontractor participation percentages to enhance competition and maximize subcontracting opportunities. For the purpose of achieving the mandatory subcontractor participation percentages, a recommended breakdown of the SLBE and ELBE subcontractor participation percentages based upon certified SLBE, and ELBE firms has also been provided to achieve the mandatory subcontractor participation percentages:

1. SLBE participation	7.5%
2. ELBE participation	10.9%
3. Total mandatory participation	18.4%

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

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

7.2.2. Submit Good Faith Effort (GFE) documentation, saved in searchable Portable Document Format (PDF), demonstrating the Bidder made a good faith effort to conduct outreach to and include SLBE-ELBE Subcontractors as required in this solicitation by 5 PM 3 Working Days after the Bid opening if the overall mandatory participation percentage is not met.

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

8. AWARD PROCESS:

8.1. The Award of this contract is contingent upon the Contractor's compliance with all conditions of Award as stated within these documents and within the Notice of Intent to Award.

8.2. Upon acceptance of bids and determination of the apparent low bidder, the City will prepare the contract documents for execution within approximately 21 days of the date of the bid opening. The City will then award the contract upon receipt of properly signed Contract, bonds, and insurance documents.

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

8.4. The low Bid will be determined by the Base Bid.

8.5. Once the low bid has been determined, the City may, at its sole discretion, award the contract for the Base bid alone.

9. SUBMISSION OF QUESTIONS:

9.1. The Director (or Designee) of the Purchasing & Contracting Department is the officer responsible for opening, examining, and evaluating the competitive Bids submitted to the City for the acquisition, construction, and completion of any public improvement except when otherwise set forth in these documents. Any questions related to this solicitation shall be submitted to:

RMcMinn@sandiego.gov

9.2. Questions received less than 14 days prior to the date for opening of Bids may not be considered.

- 9.3. Questions or clarifications deemed by the City to be material shall be answered via issuance of an addendum and posted to the City's online bidding service.
- 9.4. Only questions answered by formal written addenda shall be binding. Oral and other interpretations or clarifications shall be without legal effect. It is the Bidder's responsibility to be informed of any addenda that have been issued and to include all such information in its Bid.

10. CONTRACTOR EXPERIENCE:

To be considered a qualified and responsible Bidder, the CONTRACTOR shall provide documentation establishing that they and/or their subcontractor have satisfied the experience requirements to perform the work.

See prequalification questionnaire at the end of this Section below. Submission of this questionnaire does not constitute qualification. Qualification may be denied for any reason the City of San Diego deems necessary for the successful completion of the project.

- 10.1. Prime Contractor shall have completed similar projects that require surface preparation, repair of reinforced concrete structures in either a water or wastewater treatment facility using cementitious repair mortars followed by application of high-solids epoxy coatings. The CONTRACTOR and/or their subcontractor shall have performed all concrete restoration, metal coatings and final epoxy coating to the prepared, restored, concrete surfaces. The work shall include CONTRACTOR Quality Assurance and Quality Control (QA/QC) measures as part of the work. Referenced concrete restoration and coating projects referenced shall be complete and in good operating condition. CONTRACTOR may provide projects to demonstrate required experience. Each project reference shall require its own form with verifiable and current references.
- 10.2. Reference projects shall demonstrate experience in surface preparation of concrete substrate, repair of reinforcement, treatment of construction and expansion joints, third-party testing for conformance with the specifications for compressive strength of mortars and/or adhesion testing of coatings, holiday testing, application of specified repair mortars by skilled applicators including manufacturer certifications and coating of prepared concrete substrate and metal with an approved high-solids epoxy coating. Reference projects may include subcontractor experience as applicable and sufficient to document prior experience for similar project requirements.
- 10.3. The bidding contractor is made aware of the requirements in the technical specifications to provide independent third-party inspection services as part of their phase II prequal. Third-party inspections shall include the appropriate NACE/SPCC (both NACE and SPCC are now combined under the umbrella organization Association for Materials Protection and Performance (AAMP). Qualifications and certifications to perform testing in accordance with the specifications.
- 10.4. Failure to demonstrate the required qualifications shall deem the Contractor ineligible for further consideration.

OTAY WATER TREATMENT PLANT BASIN
NO. 1 CONCRETE RESTORATION
CONTRACTOR EXPERIENCE REFERENCE FORM

Your Firm Name _____

SIMILAR CONSTRUCTION PROJECTS COMPLETED

Names and references must be current and verifiable
References will be contacted and interviewed

Copy this sheet as necessary and provide the following information regarding:

Similar project completed within the last five (5) years. Three similar projects are required to qualify.

Project Completed By (Firm Name): _____

Project Name: _____

Location: _____ Owner: _____

Contact: _____ Phone: _____ Email: _____

Architect or Engineer: _____

Contact: _____ Phone: _____ Email: _____

Construction Manager: _____ Phone: _____

Description of Project, Scope of Work Performed: _____

Total Value of Construction (including change orders):* _____

Scheduled Completion Date: _____ Actual Completion Date: _____

Extension Time Granted (Number of Days): _____

INSTRUCTIONS TO BIDDERS

1. PREQUALIFICATION OF CONTRACTORS:

- 1.1. Contractors submitting a Bid must be pre-qualified for the total amount proposed, including all alternate items, prior to the date of submittal. Bids from contractors who have not been pre-qualified as applicable and Bids that exceed the maximum dollar amount at which contractors are pre-qualified may be deemed non-responsive and ineligible for award.
- 1.2. The completed application must be submitted online no later than 4 weeks prior to the bid opening.
- 1.3. **Joint Venture Bidders Cumulative Maximum Bidding Capacity:** For projects with an engineer's estimate of \$30,000,000 or greater, Joint Ventures submitting bids may be deemed responsive and eligible for award if the cumulative maximum bidding capacity of the individual Joint Venture entities is equal to or greater than the total amount proposed.
 - 1.3.1. Each of the entities of the Joint Venture must have been previously prequalified at a minimum of \$15,000,000.
 - 1.3.2. Bids submitted with a total amount proposed of less than \$30,000,000 are not eligible for Cumulative Maximum Bidding Capacity prequalification. To be eligible for award in this scenario, the Joint Venture itself or at least one of the Joint Venture entities must have been prequalified for the total amount proposed.
 - 1.3.3. Bids submitted by Joint Ventures with a total amount proposed of \$30,000,000 or greater on a project with an engineer's estimate of less than \$30,000,000 are not eligible for Cumulative Maximum Bidding Capacity prequalification.
 - 1.3.4. The Joint Venture designated as the Apparent Low Bidder shall provide evidence of its corporate existence and furnish good and approved bonds in the name of the Joint Venture within 14 Calendar Days of receipt by the Bidder of a form of contract for execution.
- 1.4. Complete information and links to the on-line prequalification application are available at:
<http://www.sandiego.gov/cip/bidopps/prequalification>
- 1.5. Due to the City's responsibility to protect the confidentiality of the contractors' information, City staff will not be able to provide information regarding contractors' prequalification status over the telephone. Contractors may access real-time information about their prequalification status via their vendor profile on [PlanetBids™](#).

2. **ELECTRONIC FORMAT RECEIPT AND OPENING OF BIDS:** Bids will be received in electronic format (eBids) EXCLUSIVELY at the City of San Diego's electronic bidding (eBidding) site, at: <http://www.sandiego.gov/cip/bidopps/index.shtml> and are due by the date, and time shown on the cover of this solicitation.

- 2.1. **BIDDERS MUST BE PRE-REGISTERED** with the City's bidding system and possess a system-assigned Digital ID in order to submit and electronic bid.
- 2.2. The City's bidding system will automatically track information submitted to the site including IP addresses, browsers being used and the URLs from which information was submitted. In addition, the City's bidding system will keep a history of every login instance including the time of login, and other information about the user's computer configuration such as the operating system, browser type, version, and more. Because of these security features, Contractors who disable their browsers' cookies will not be able to log in and use the City's bidding system.
- 2.3. The City's electronic bidding system is responsible for bid tabulations. Upon the bidder's or proposer's entry of their bid, the system will ensure that all required fields are entered. The system will not accept a bid for which any required information is missing. This includes all necessary pricing, subcontractor listing(s) and any other essential documentation and supporting materials and forms requested or contained in these solicitation documents.
- 2.4. **BIDS REMAIN SEALED UNTIL BID DEADLINE.** eBids are transmitted into the City's bidding system via hypertext transfer protocol secure (https) mechanism using SSL 128-256 bit security certificates issued from Verisign/Thawte which encrypts data being transferred from client to server. Bids submitted prior to the "Bid Due Date and Time" are not available for review by anyone other than the submitter who has until the "Bid Due Date and Time" to change, rescind, or retrieve its proposal should it desire to do so.
- 2.5. **BIDS MUST BE SUBMITTED BY BID DUE DATE AND TIME.** Once the bid deadline is reached, no further submissions are accepted into the system. Once the Bid Due Date and Time has lapsed, bidders, proposers, the general public, and City staff are able to immediately see the results online. City staff may then begin reviewing the submissions for responsiveness, EOCB compliance and other issues. The City may require any Bidder to furnish statement of experience, financial responsibility, technical ability, equipment, and references.
- 2.6. **RECAPITULATION OF THE WORK.** Bids shall not contain any recapitulation of the Work. Conditional Bids may be rejected as being non-responsive. Alternative proposals will not be considered unless called for.
- 2.7. **BIDS MAY BE WITHDRAWN** by the Bidder only up to the bid due date and time.
 - 2.7.1. Important Note: Submission of the electronic bid into the system may not be instantaneous. Due to the speed and capabilities of the user's internet service provider (ISP), bandwidth, computer hardware and other variables, it may take time for the bidder's submission to upload and be received by the City's eBidding system. It is the bidder's sole responsibility to ensure their bids are received on time by the City's eBidding system. The City of San Diego is not responsible for bids that do not arrive by the required date and time.

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

3. ELECTRONIC BID SUBMISSIONS CARRY FULL FORCE AND EFFECT:

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

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

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

3.4. The Bidder agrees to the construction of the project as described in Attachment "A-Scope of Work" for the City of San Diego, in accordance with the requirements set forth herein for the electronically submitted prices. The Bidder guarantees the Contract Price for a period of 120 days from the date of Bid opening. The duration of the Contract Price guarantee shall be extended by the number of days required for the City to obtain all items necessary to fulfill all conditions precedent.

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

5. CONTRACTOR REGISTRATION AND ELECTRONIC REPORTING SYSTEM:

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

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

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

the Notice of Award / Intent to Award and to make the award to the next responsive and responsible bidder / proposer.

6. JOINT VENTURE CONTRACTORS: Provide a copy of the Joint Venture agreement and the Joint Venture license to the City within 14 Calendar Days after receiving the Contract forms.

7. INSURANCE REQUIREMENTS:

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

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

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

Title	Edition	Document Number
Standard Specifications for Public Works Construction ("The GREENBOOK") http://www.greenbookspecs.org/	2018	PWPI010119-01
City of San Diego Standard Specifications for Public Works Construction ("The WHITEBOOK")* https://www.sandiego.gov/ecp/edocref/greenbook	2018	PWPI010119-02
City of San Diego Standard Drawings* https://www.sandiego.gov/ecp/edocref/standarddraw	2018	PWPI010119-03
Citywide Computer Aided Design and Drafting (CADD) Standards https://www.sandiego.gov/ecp/edocref/drawings	2018	PWPI010119-04
California Department of Transportation (CALTRANS) Standard Specifications https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications	2018	PWPI030119-05
CALTRANS Standard Plans https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications	2018	PWPI030119-06
California Manual on Uniform Traffic Control Devices Revision 6 (CA MUTCD Rev 6) https://dot.ca.gov/programs/safety-programs/camutcd/camutcd-files	2014	PWPI060121-10
NOTE: *Available online under Engineering Documents and References at: https://www.sandiego.gov/ecp/edocref/		
*Electronic updates to the Standard Drawings may also be found in the link above		

9. CITY'S RESPONSES AND ADDENDA: The City, at its discretion, may respond to any or all questions submitted in writing via the City's eBidding web site in the **form of an addendum**. No other responses to questions, oral or written shall be of any force or effect with respect to this solicitation. The changes to the Contract Documents through addenda are made effective as though originally issued with the Bid. The Bidders shall acknowledge the receipt of Addenda at the time of bid submission.

10. CITY'S RIGHTS RESERVED: The City reserves the right to cancel the Notice Inviting Bids at any time, and further reserves the right to reject submitted Bids, without giving any reason for such action, at its sole discretion and without liability. Costs incurred by the Bidder(s) as a result of preparing Bids under the Notice Inviting Bids shall be the sole responsibility of each bidder. The Notice Inviting Bids creates or imposes no obligation upon the City to enter a contract.

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

12. SUBCONTRACTOR INFORMATION:

12.1. LISTING OF SUBCONTRACTORS. In accordance with the requirements provided in the "Subletting and Subcontracting Fair Practices Act" of the California Public Contract Code, the Bidder shall provide the **NAME** and **ADDRESS** of each Subcontractor who will perform work, labor, render services or who specially fabricates and installs a portion [type] of the work or improvement, in an amount in excess of 0.5% of the Contractor's total Bid. The Bidder shall also state within the description, whether the subcontractor is a **CONSTRUCTOR, CONSULTANT** or **SUPPLIER**. The Bidder shall state the **DIR REGISTRATION NUMBER** for all subcontractors and shall further state within the description, the **PORTION** of the work which will be performed by each subcontractor under this Contract. The Contractor shall list only one Subcontractor for each portion of the Work. The **DOLLAR VALUE** of the total Bid to be performed shall be stated for all subcontractors listed. Failure to comply with this requirement may result in the Bid being rejected as **non-responsive** and ineligible for award. The Bidder's attention is directed to the Special Provisions - Section 3-2, "Self-Performance", which stipulates the percent of the Work to be performed with the Bidders' own forces. The Bidder shall list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, SDB, WoSB, HUBZone, and SDVOSB Subcontractors for which Bidders are seeking recognition towards achieving any mandatory, voluntary (or both) subcontracting participation goals.

Additionally, pursuant to California Senate Bill 96 and in accordance with the requirements of Labor Code sections 1771.1 and 1725.5, by submitting a bid or proposal to the City, Contractor is certifying that he or she has verified that all subcontractors used on this public work project are registered with the California Department of Industrial Relations (DIR). **The Bidder shall provide the name, address, license number, DIR registration number of any Subcontractor - regardless of tier** - who will perform work, labor, render services or specially fabricate and install a portion [type] of the work or improvement pursuant to the contract.

12.2. LISTING OF SUPPLIERS. Any Bidder seeking the recognition of Suppliers of equipment, materials, or supplies obtained from third party Suppliers towards achieving any mandatory or voluntary (or both) subcontracting participation goals

shall provide, at a minimum, the **NAME, LOCATION (CITY), DIR REGISTRATION NUMBER** and the **DOLLAR VALUE** of each supplier. The Bidder will be credited up to 60% of the amount to be paid to the Suppliers for materials and supplies unless vendor manufactures or substantially alters materials and supplies, in which case, 100% will be credited. The Bidder is to indicate within the description whether the listed firm is a supplier or manufacturer. If no indication is provided, the listed firm will be credited at 60% of the listed dollar value for purposes of calculating the Subcontractor Participation Percentage.

- 12.3. LISTING OF SUBCONTRACTORS OR SUPPLIERS FOR ALTERNATES.** For subcontractors or suppliers to be used on additive or deductive alternate items, in addition to the above requirements, bidder shall further note "ALTERNATE" and alternate item number within the description.
- 13. SUBMITTAL OF "OR EQUAL" ITEMS:** See Section 4-6, "Trade Names" in The WHITEBOOK and as amended in the SSP.
- 14. AWARD:**
- 14.1.** The Award of this contract is contingent upon the Contractor's compliance with all condition's precedent to Award.
- 14.2.** Upon acceptance of a Bid, the City will prepare contract documents for execution within approximately 21 days of the date of the Bid opening and award the Contract approximately within 7 days of receipt of properly executed Contract, bonds, and insurance documents.
- 14.3.** This contract will be deemed executed and effective only upon the signing of the Contract by the Mayor or his designee and approval as to form the City Attorney's Office.
- 15. SUBCONTRACT LIMITATIONS:** The Bidder's attention is directed to Standard Specifications for Public Works Construction, Section 3-2, "SELF-PERFORMANCE" in The GREENBOOK and as amended in the SSP which requires the Contractor to self-perform not less than the specified amount. Failure to comply with this requirement shall render the bid **non-responsive** and ineligible for award.
- 16. AVAILABILITY OF PLANS AND SPECIFICATIONS:** Contract Documents may be obtained by visiting the City's website: <http://www.sandiego.gov/cip/>. Plans and Specifications for this contract are also available for review in the office of the City Clerk or Purchasing & Contracting Department, Public Works Division.
- 17. ONLY ONE BID PER CONTRACTOR SHALL BE ACCEPTED:** No person, firm, or corporation shall be allowed to make, file, or be interested in more than one (1) Bid for the same work unless alternate Bids are called for. A person, firm or corporation who has submitted a sub-proposal to a Bidder, or who has quoted prices on materials to a Bidder, is not hereby disqualified from submitting a sub-proposal or quoting prices to other Bidders or from submitting a Bid in its own behalf. Any Bidder who submits more than one bid will result in the rejection of all bids submitted.

18. SAN DIEGO BUSINESS TAX CERTIFICATE: The Contractor and Subcontractors, not already having a City of San Diego Business Tax Certificate for the work contemplated shall secure the appropriate certificate from the City Treasurer, Civic Center Plaza, First floor and submit to the Contract Specialist upon request or as specified in the Contract Documents. Tax Identification numbers for both the Bidder and the listed Subcontractors must be submitted on the City provided forms within these documents.

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

19.1. For bids \$250,000 and above, bidders shall submit Bid Security at bid time. Bid Security shall be in one of the following forms: a cashier's check, or a properly certified check upon some responsible bank; or an approved corporate surety bond payable to the City of San Diego for an amount of not less than 10% of the total bid amount.

19.2. This check or bond, and the monies represented thereby, will be held by the City as a guarantee that the Bidder, if awarded the contract, will in good faith enter into the contract and furnish the required final performance and payment bonds.

19.3. The Bidder agrees that in the event of the Bidder's failure to execute this contract and provide the required final bonds, the money represented by the cashier's or certified check will remain the property of the City; and the Surety agrees that it will pay to the City the damages, not exceeding the sum of 10% of the amount of the Bid, that the City may suffer as a result of such failure.

19.4. At the time of bid submission, bidders must upload and submit an electronic PDF copy of the aforementioned bid security. Whether in the form of a cashier's check, a properly certified check, or an approved corporate surety bond payable to the City of San Diego, the bid security must be uploaded to the City's eBidding system. By 5PM, 3 working days after the bid opening date, all bidders must provide the City with the original bid security.

19.5. Failure to submit the electronic version of the bid security at the time of bid submission AND failure to provide the original by 5PM, 3 working days after the bid opening date shall cause the bid to be rejected and deemed **non-responsive**.

Due to circumstances related to Covid-19, until further notice, all original bid bond submittals must be received by 5 PM, 3 working days after bid opening.

Upon circumstances returning to normal business as usual, the original bid bond shall once again be due by 5 PM the day after bid opening.

Original Bid Bond shall be submitted to:
Purchasing & Contracting Department, Public Works Division
525 B Street, Suite 750 (7th Floor)
San Diego, California, 92101
To the Attention of the Contract Specialist on the Front Page of this solicitation.

20. AWARD OF CONTRACT OR REJECTION OF BIDS:

- 20.1.** This contract may be awarded to the lowest responsible and reliable Bidder.
- 20.2.** Bidders shall complete ALL eBid forms as required by this solicitation. Incomplete eBids will not be accepted.
- 20.3.** The City reserves the right to reject any or all Bids, to waive any informality or technicality in Bids received, and to waive any requirements of these specifications as to bidding procedure.
- 20.4.** Bidders will not be released on account of their errors of judgment. Bidders may be released only upon receipt by the City within 3 Working Days of the bid opening, written notice from the Bidder which shows proof of honest, credible, clerical error of a material nature, free from fraud or fraudulent intent; and of evidence that reasonable care was observed in the preparation of the Bid.
- 20.5.** A bidder who is not selected for contract award may protest the award of a contract to another bidder by submitting a written protest in accordance with the San Diego Municipal Code.
- 20.6.** The City of San Diego will not discriminate in the award of contracts with regard to race, religion creed, color, national origin, ancestry, physical handicap, marital status, sex, or age.
- 20.7.** Each Bid package properly signed as required by these specifications shall constitute a firm offer which may be accepted by the City within the time specified herein.
- 20.8.** The City reserves the right to evaluate all Bids and determine the lowest Bidder on the basis of the base bid and any proposed alternates or options as detailed herein.

21. BID RESULTS:

- 21.1.** The availability of the bids on the City's eBidding system shall constitute the public announcement of the apparent low bidder. In the event that the apparent low bidder is subsequently deemed non-responsive or non-responsible, a notation of such will be made on the eBidding system. The new ranking and apparent low bidder will be adjusted accordingly.
- 21.2.** To obtain the bid results, view the results on the City's web site, or request the results by U.S. mail and provide a self-addressed, stamped envelope. If requesting by mail, be sure to reference the bid name and number. The bid tabulations will be mailed to you upon their completion. The results will not be given over the telephone.

22. THE CONTRACT:

- 22.1.** The Bidder to whom award is made shall execute a written contract with the City of San Diego and furnish good and approved bonds and insurance certificates specified

by the City within 14 days after receipt by Bidder of a form of contract for execution unless an extension of time is granted to the Bidder in writing.

- 22.2.** If the Bidder takes longer than 14 days to fulfill these requirements, then the additional time taken shall be added to the Bid guarantee. The Contract shall be made in the form adopted by the City, which includes the provision that no claim or suit whatsoever shall be made or brought by Contractor against any officer, agent, or employee of the City for or on account of anything done or omitted to be done in connection with this contract, nor shall any such officer, agent, or employee be liable hereunder.
- 22.3.** If the Bidder to whom the award is made fails to enter into the contract as herein provided, the award may be annulled, and the Bidder's Guarantee of Good Faith will be subject to forfeiture. An award may be made to the next lowest responsible and reliable Bidder who shall fulfill every stipulation embraced herein as if it were the party to whom the first award was made.
- 22.4.** Pursuant to the San Diego City Charter section 94, the City may only award a public works contract to the lowest responsible and reliable Bidder. The City will require the Apparent Low Bidder to (i) submit information to determine the Bidder's responsibility and reliability, (ii) execute the Contract in form provided by the City, and (iii) furnish good and approved bonds and insurance certificates specified by the City within 14 Days, unless otherwise approved by the City, in writing after the Bidder receives notification from the City, designating the Bidder as the Apparent Low Bidder and formally requesting the above mentioned items.
- 22.5.** The award of the Contract is contingent upon the satisfactory completion of the above-mentioned items and becomes effective upon the signing of the Contract by the Mayor or designee and approval as to form by the City Attorney's Office. If the Apparent Low Bidder does not execute the Contract or submit required documents and information, the City may award the Contract to the next lowest responsible and reliable Bidder who shall fulfill every condition precedent to award. A corporation designated as the Apparent Low Bidder shall furnish evidence of its corporate existence and evidence that the officer signing the Contract and bond for the corporation is duly authorized to do so.
- 23. EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE OF WORK:** The Bidder shall examine carefully the Project Site, the Plans and Specifications, other materials as described in the Special Provisions, Section 3-9, "TECHNICAL STUDIES AND SUBSURFACE DATA", and the proposal forms (e.g., Bidding Documents). The submission of a Bid shall be conclusive evidence that the Bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and scope of work, the quantities of materials to be furnished, and as to the requirements of the Bidding Documents Proposal, Plans, and Specifications.

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

- 24.1.** The City of San Diego Resolution No. R-277952 adopted on May 20, 1991 for a Drug-Free Workplace.
- 24.2.** The City of San Diego Resolution No. R-282153 adopted on June 14, 1993 related to the Americans with Disabilities Act.
- 24.3.** The City of San Diego Municipal Code §22.3004 for Contractor Standards.
- 24.4.** The City of San Diego's Labor Compliance Program and the State of California Labor Code §§1771.5(b) and 1776.
- 24.5.** Sections 1777.5, 1777.6, and 1777.7 of the State of California Labor Code concerning the employment of apprentices by contractors and subcontractors performing public works contracts.
- 24.6.** The City's Equal Benefits Ordinance (EBO), Chapter 2, Article 2, Division 43 of The San Diego Municipal Code (SDMC).
- 24.7.** The City's Information Security Policy (ISP) as defined in the City's Administrative Regulation 90.63.

25. PRE-AWARD ACTIVITIES:

- 25.1.** The contractor selected by the City to execute a contract for this Work shall submit the required documentation as specified herein and in the Notice of Intent to Award. Failure to provide the information as specified may result in the Bid being rejected as **non-responsive**.
- 25.2.** The decision that bid is non-responsive for failure to provide the information required within the time specified shall be at the sole discretion of the City.

PERFORMANCE BOND, LABOR AND MATERIALMEN'S BOND

FAITHFUL PERFORMANCE BOND AND LABOR AND MATERIALMEN'S BOND:

Abhe & Svoboda, Inc., a corporation, as principal, and Western Surety 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 **One Million Nine Hundred Seventy Nine Thousand Four Hundred Seventy Dollars and Zero Cents(\$1,979,470.00)** for the faithful performance of the annexed contract, and in the sum of **One Million Nine Hundred Seventy Nine Thousand Four Hundred Seventy Dollars and Zero Cents(\$1,979,470.00)**, for the benefit of laborers and materialmen designated below.

Conditions:

If the Principal shall faithfully perform the annexed contract with the City of San Diego, California, then the obligation herein with respect to a faithful performance shall be void; otherwise, it shall remain in full force.

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

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

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

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

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

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

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

THE CITY OF SAN DIEGO

APPROVED AS TO FORM

By: Stephen Samara

Mara W. Elliott, City Attorney
By: [Signature]

Print Name: Stephen Samara
Principal Contract Specialist
Purchasing & Contracting Department

Print Name: ADAM WASSER
Deputy City Attorney

Date: 5/25/2022

Date: 6/7/22

CONTRACTOR Abhe & Svoboda, Inc.

SURETY Western Surety Company

By: [Signature]
JAMES SVOBODA
VICE PRESIDENT

By: [Signature]
Attorney-In-Fact

Print Name: _____

Print Name: Joshua R. Loftis, Attorney-in-Fact

Date: 4/22/2022

Date: April 22, 2022

NO SEAL

151 N Franklin Street, Chicago, IL 60606
Local Address of Surety

(312) 822-5000
Local Phone Number of Surety

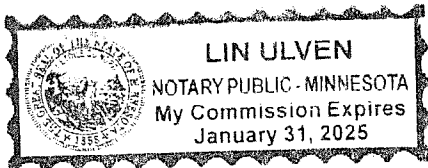
\$17,836.00
Premium

30158760
Bond Number

SURETY ACKNOWLEDGMENT

State of **Minnesota**)
) ss
County of **Hennepin**)

On this 22nd day of April, 2022, before me appeared Joshua R. Loftis,
to me personally know, who being by me duly sworn, did say that (s)he is the Attorney-in-Fact of _____
Western Surety Company, a corporation, that the seal
affixed to the foregoing instrument is the corporate seal of said corporation and that said instrument was
executed in behalf of said corporation by authority of its Board of Directors; and that said _____
Joshua R. Loftis acknowledged said instrument to be the free act and deed of said corporation.



[Handwritten Signature]

Notary Public Ramsey County, Minnesota
My commission expires 1/31/2025

Western Surety Company

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is a duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

R. W. Frank, Nicole Stillings, Rachel Thomas, Joshua R. Loftis, Ted Jorgensen, Sandra M. Engstrum, Melinda C. Blodgett, R. C. Bowman, Brian J. Oestreich, Lin Ulven, Emily White, Nathan Weaver, C. White, Individually

of Minneapolis, MN, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

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

This Power of Attorney is made and executed pursuant to and by authority of the By-Law printed on the reverse hereof, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 21st day of December, 2021.



WESTERN SURETY COMPANY

Paul T. Bruflat

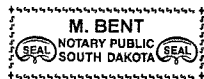
Paul T. Bruflat, Vice President

State of South Dakota }
County of Minnehaha } ss

On this 21st day of December, 2021, before me personally came Paul T. Bruflat, to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is the Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires

March 2, 2026



M. Bent

M. Bent, Notary Public

CERTIFICATE

I, L. Nelson, Assistant Secretary of WESTERN SURETY COMPANY do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law of the corporation printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said corporation this 22nd day of April . 2022



WESTERN SURETY COMPANY

L. Nelson

L. Nelson, Assistant Secretary

STATE OF CALIFORNIA
DEPARTMENT OF INSURANCE
SAN FRANCISCO

AMENDED
Certificate of Authority

THIS IS TO CERTIFY, That, pursuant to the Insurance Code of the State of California,

WESTERN SURETY COMPANY

of SIOUX FALLS, SOUTH DAKOTA, organized under the laws of SOUTH DAKOTA, subject to its Articles of Incorporation or other fundamental organizational documents, is hereby authorized to transact within this State, subject to all provisions of this Certificate, the following classes of insurance:

SURETY and LIABILITY

as such classes are now or may hereafter be defined in the Insurance Laws of the State of California.

THIS CERTIFICATE is expressly conditioned upon the holder hereof now and hereafter being in full compliance with all, and not in violation of any, of the applicable laws and lawful requirements made under authority of the laws of the State of California as long as such laws or requirements are in effect and applicable, and as such laws and requirements now are, or may hereafter be changed or amended.

IN WITNESS WHEREOF, effective as of the 21ST day of MARCH, 1975, I have hereunto set my hand and caused my official seal to be affixed this 21ST day of MARCH, 1975.

Fee
Rec. No.
Filed

WESLEY J. KINDER
Insurance Commissioner

By

Walter M. Dale
Deputy

NOTICE:
Qualification with the Secretary of State must be accomplished as required by the California Corporations Code promptly after issuance of this Certificate of Authority. Failure to do so will be a violation of Ins. Code Sec. 701 and will be grounds for revoking this Certificate of Authority pursuant to the covenants made in the application therefor and the conditions contained herein.

ATTACHMENTS

ATTACHMENT A
SCOPE OF WORK

SCOPE OF WORK

- 1. SCOPE OF WORK:** The concrete restoration of flocculation and sedimentation in basin no. 1 shall include but not limited to surface reparation, concrete repairs, joint strips replacement, resurfacing, and application of protective coating on the floors and walls at flocculation and sedimentation basin I to include all carbon steel surfaces in the basin (Mixers Excluded), and shall include replacement of redwood baffles and cathodic protection of metal parts within the basin per requirements of specification and these plans.

1.1 The Work shall be performed in accordance with:

- 1.1.1.** The Notice Inviting Bids and Plans numbered **40352-01-D thru 40352-08-D**, inclusive.

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

See **Appendix E – Location Map.**

- 3. CONTRACT TIME:** The Contract Time for completion of the Work, shall be **200 Working Days.**

ATTACHMENT B

RESERVED

ATTACHMENT C

RESERVED

ATTACHMENT D
PREVAILING WAGE

PREVAILING WAGE

1. **PREVAILING WAGE RATES:** Pursuant to San Diego Municipal Code section 22.3019, construction, alteration, demolition, repair and maintenance work performed under this Contract is subject to State prevailing wage laws. For construction work performed under this Contract cumulatively exceeding \$25,000 and for alteration, demolition, repair and maintenance work performed under this Contract cumulatively exceeding \$15,000, the Contractor and its subcontractors shall comply with State prevailing wage laws including, but not limited to, the requirements listed below.
 - 1.1. **Compliance with Prevailing Wage Requirements.** Pursuant to sections 1720 through 1861 of the California Labor Code, the Contractor and its subcontractors shall ensure that all workers who perform work under this Contract are paid not less than the prevailing rate of per diem wages as determined by the Director of the California Department of Industrial Relations (DIR). This includes work performed during the design and preconstruction phases of construction including, but not limited to, inspection and land surveying work.
 - 1.1.1. Copies of such prevailing rate of per diem wages are on file at the City and are available for inspection to any interested party on request. Copies of the prevailing rate of per diem wages also may be found at <http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>. Contractor and its subcontractors shall post a copy of the prevailing rate of per diem wages determination at each job site and shall make them available to any interested party upon request.
 - 1.1.2. The wage rates determined by the DIR refer to expiration dates. If the published wage rate does not refer to a predetermined wage rate to be paid after the expiration date, then the published rate of wage shall be in effect for the life of this Contract. If the published wage rate refers to a predetermined wage rate to become effective upon expiration of the published wage rate and the predetermined wage rate is on file with the DIR, such predetermined wage rate shall become effective on the date following the expiration date and shall apply to this Contract in the same manner as if it had been published in said publication. If the predetermined wage rate refers to one or more additional expiration dates with additional predetermined wage rates, which expiration dates occur during the life of this Contract, each successive predetermined wage rate shall apply to this Contract on the date following the expiration date of the previous wage rate. If the last of such predetermined wage rates expires during the life of this Contract, such wage rate shall apply to the balance of the Contract.
 - 1.2. **Penalties for Violations.** Contractor and its subcontractors shall comply with California Labor Code section 1775 in the event a worker is paid less than the prevailing wage rate for the work or craft in which the worker is employed. This shall be in addition to any other applicable penalties allowed under Labor Code sections 1720 – 1861.

- 1.3. Payroll Records.** Contractor and its subcontractors shall comply with California Labor Code section 1776, which generally requires keeping accurate payroll records, verifying, and certifying payroll records, and making them available for inspection. Contractor shall require its subcontractors to also comply with section 1776. Contractor and its subcontractors shall submit weekly certified payroll records online via the City's web-based Labor Compliance Program. Contractor is responsible for ensuring its subcontractors submit certified payroll records to the City.
- 1.3.1.** Contractor and their subcontractors shall also furnish records specified in Labor Code section 1776 directly to the Labor Commissioner in the manner required by Labor Code section 1771.4.
- 1.4. Apprentices.** Contractor and its subcontractors shall comply with California Labor Code sections 1777.5, 1777.6 and 1777.7 concerning the employment and wages of apprentices. Contractor is held responsible for the compliance of their subcontractors with sections 1777.5, 1777.6 and 1777.7.
- 1.5. Working Hours.** Contractor and their subcontractors shall comply with California Labor Code sections 1810 through 1815, including but not limited to: (i) restrict working hours on public works contracts to eight hours a day and forty hours a week, unless all hours worked in excess of 8 hours per day are compensated at not less than 1½ times the basic rate of pay; and (ii) specify penalties to be imposed on contractors and subcontractors of \$25 per worker per day for each day the worker works more than 8 hours per day and 40 hours per week in violation of California Labor Code sections 1810 through 1815.
- 1.6. Required Provisions for Subcontracts.** Contractor shall include at a minimum a copy of the following provisions in any contract they enter into with a subcontractor: California Labor Code sections 1771, 1771.1, 1775, 1776, 1777.5, 1810, 1813, 1815, 1860 and 1861.
- 1.7. Labor Code Section 1861 Certification.** Contractor in accordance with California Labor Code section 3700 is required to secure the payment of compensation of its employees and by signing this Contract, Contractor certifies that "I am aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this Contract."
- 1.8. Labor Compliance Program.** The City has its own Labor Compliance Program authorized in August 2011 by the DIR. The City will withhold contract payments when payroll records are delinquent or deemed inadequate by the City or other governmental entity, or it has been established after an investigation by the City or other governmental entity that underpayment(s) have occurred. For questions or assistance, please contact the City of San Diego's Prevailing Wage Unit at 858-627-3200.

- 1.9. Contractor and Subcontractor Registration Requirements.** This project is subject to compliance monitoring and enforcement by the DIR. A contractor or subcontractor shall not be qualified to bid on, be listed in a bid or proposal, subject to the requirements of section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, unless currently registered and qualified to perform public work pursuant to Labor Code section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.
- 1.9.1.** A Contractor's inadvertent error in listing a subcontractor who is not registered pursuant to Labor Code section 1725.5 in response to a solicitation shall not be grounds for filing a bid protest or grounds for considering the bid non-responsive provided that any of the following apply: (1) the subcontractor is registered prior to bid opening; (2) within twenty-four hours after the bid opening, the subcontractor is registered and has paid the penalty registration fee specified in Labor Code section 1725.5; or (3) the subcontractor is replaced by another registered subcontractor pursuant to Public Contract Code section 4107.
- 1.9.2.** By submitting a bid or proposal to the City, Contractor is certifying that he or she has verified that all subcontractors used on this public work project are registered with the DIR in compliance with Labor Code sections 1771.1 and 1725.5, and Contractor shall provide proof of registration for themselves and all listed subcontractors to the City at the time of bid or proposal due date or upon request.
- 1.10. Stop Order.** For Contractor or its subcontractors engaging in the performance of any public work contract without having been registered in violation of Labor Code sections 1725.5 or 1771.1, the Labor Commissioner shall issue and serve a stop order prohibiting the use of the unregistered contractors or unregistered subcontractor(s) on ALL public works until the unregistered contractor or unregistered subcontractor(s) is registered. Failure to observe a stop order is a misdemeanor.
- 1.11. List of all Subcontractors.** The Contractor shall provide the list of subcontractors (regardless of tier), along with their DIR registration numbers, utilized on this Contract prior to any work being performed; and the Contractor shall provide a complete list of all subcontractors with each invoice. Additionally, Contractor shall provide the City with a complete list of all subcontractors (regardless of tier) utilized on this contract within ten working days of the completion of the contract, along with their DIR registration numbers. The City shall withhold final payment to Construction Management Professional until at least thirty (30) days after this information is provided to the City.
- 1.12. Exemptions for Small Projects.** There are limited exemptions for installation, alteration, demolition, or repair work done on projects of \$25,000 or less. The Contractor shall still comply with Labor Code sections 1720 et. seq. The only recognized exemptions are listed below:
- 1.12.1.** Registration. The Contractor will not be required to register with the DIR for small projects. (Labor Code section 1771.1).

- 1.12.2.** Certified Payroll Records. The records required in Labor Code section 1776 shall be required to be kept and submitted to the City of San Diego but will not be required to be submitted online with the DIR directly. The Contractor will need to keep those records for at least three years following the completion of the Contract. (Labor Code section 1771.4).
- 1.12.3.** List of all Subcontractors. The Contractor shall not be required to hire only registered subcontractors and is exempt from submitting the list of all subcontractors that is required in section 1.11 above. (Labor code section 1773.3).

ATTACHMENT E
SUPPLEMENTARY SPECIAL PROVISIONS

SUPPLEMENTARY SPECIAL PROVISIONS

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

1. The **2018 Edition** of the Standard Specifications for Public Works Construction (The "GREENBOOK").
2. The **2018 Edition** of the City of San Diego Standard Specifications for Public Works Construction (The "WHITEBOOK"), including the following:
 - a) General Provisions (A) for all Contracts.

PART 0 – EQUAL OPPORTUNITY CONTRACTING PROGRAM (EOCP)

SECTION A – GENERAL REQUIREMENTS

0-12 CONTRACT RECORDS AND REPORTS. To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. You shall maintain records of all subcontracts and invoices from your Subcontractors and Suppliers for work on this project. Records shall show name, telephone number including area code, and business address of each Subcontractor, Supplier, and joint venture partner, and the total amount actually paid to each firm. Project relevant records, regardless of tier, may be periodically reviewed by the City.
2. You shall retain all records, books, papers, and documents pertinent to the Contract for a period of not less than 5 years after Notice of Completion and allow access to said records by the City's authorized representatives.
3. You shall submit the following reports using the City's web-based contract compliance (Prism® portal):
 - a) **Monthly Payment.** You shall submit Monthly Payment Reporting by the 10th day of the subsequent month. Incomplete and/or delinquent reporting may cause payment delays, non-payment of invoices, or both.
4. The records maintained under item 1, described above, shall be consolidated into a Final Summary Report, certified as correct by an authorized representative of the Contractor. The Final Summary Report shall include all subcontracting activities and be sent to the EOCP Program Manager prior to Acceptance. Failure to comply may result in assessment of liquidated damages or withholding of retention. The City will review and verify 100% of subcontract participation reported in the Final Summary Report prior to approval and release of final retention to you. In the event your Subcontractors are owed money for completed Work, the City may authorize payment to subcontractor via a joint check from the withheld retention.

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

1-2 TERMS AND DEFINITIONS. To the “WHITEBOOK”, items 43, 56, 69, and 102, DELETE in their entirety and SUBSTITUTE with the following:

43. **Field Order** -A Field Order is a written agreement by the Engineer to compensate you for Work items in accordance with 2-8, “EXTRA WORK” or 2-9, “CHANGED CONDITIONS”. A Field Order does not change the Contract Price, Contract Time, or the scope intent of the Contract. The unused portion of the Field Order shall revert to the City upon Acceptance.
56. **Notice of Completion (NOC)** - A document recorded with the County of San Diego to signify that the Contract Work has been completed and accepted by the City.
69. **Punchlist** - A list of items of Work or corrections generated after a Walk-through that is conducted when you consider that the Work and Services are complete, and as verified by the Owner. The Punchlist may be completed in phases if defined in the Contract.
102. **Walk-through**- An inspection the City uses to verify the completion of the Project or phase of the Project and to generate a Punchlist prior to Acceptance.

To the “WHITEBOOK”, item 54, “Normal Working Hours”, ADD the following:

The **Normal Working Hours** are **7:00 AM to 3:00 PM**.

To the “WHITEBOOK”, ADD the following:

108. **Acceptance** – When all of the Contract Work, including all Punchlist items, is deemed officially complete by the City Asset Owning Department or Deputy City Engineer.
109. **Occupancy** – When the Owner deems a building is ready for use, the Owner will issue a certificate of Occupancy in writing.
110. **Substantial Completion** – When all Contract Work is deemed complete by the Contractor in writing, and as verified by the Owner. Substantial Completion may be completed in phases if defined in the Contract.

1-7.1.3 Requests for Information (RFI). To the “WHITEBOOK”, DELETE in its entirety and SUBSTITUTE with the following:

1. Should You discover a conflict, omission, errors in the Contract Documents, differences with existing field conditions, or have any questions concerning interpretation or clarification of Contract Documents, or when you propose deviations to the standards or design, you shall submit a Request for Information (RFI) to the City regarding your question or clarification within **1 Working Day**.

2. Your RFI shall meet the following requirements:
 - a) All RFIs, whether by You or your Subcontractor or supplier at any tier, shall be submitted by You to the City.
 - b) RFIs shall be numbered sequentially.
 - c) You shall clearly and concisely set forth the single issue for which interpretation or clarification is sought, indicate Specification Section numbers, Contract Drawing numbers, and details, or other items involved, and state why a response is required from the City.
 - d) RFIs shall be submitted within **1 Working Day** in order that they may be adequately researched and answered before the response affects any critical activity of the Work.
 - e) Should You believe that a response to an RFI causes a change to the requirements of the Contract, You shall, before proceeding, give written notice to the City, indicating that You believe that City response to the RFI to be a Change Order. Failure to give such written notice within **5 Working Days** of receipt of the City's response to the RFI shall waive Your right to seek additional time or cost.
3. The City will respond to RFIs within **5 Working Days** unless the City notifies You in writing that a response will take longer. The **5 Working Days** shall begin when the RFI is received and dated by the City. Responses from the City will not change any requirement of the Contract unless so noted by the City in the response to the RFI. The City will not issue a Change Order for Extra Work or additional time when the issue raised in the RFI was due to your fault, neglect, or any unauthorized deviations from the project design or specifications.
4. If You proceed in resolving a conflict, omission, or any error in the Contract Documents without sending the City an RFI in accordance with the requirements stated above, the City may require You to remove such work at Your cost or back charge You the cost to remove this work.

1-7.2 Contract Bonds. To the "WHITEBOOK", item 1, DELETE in its entirety and SUBSTITUTE with the following:

1. Before execution of the Contract, file payment and performance bonds with the City to be approved by the Board in the amounts and for the purposes noted. Bonds shall be executed by a responsible surety as follows:
 - a) If the Work is being funded with state or local money, consistent with California Code of Civil Procedure §995.670, the Surety shall be an "admitted surety" authorized by the State of California Department of Insurance to transact surety insurance in the State.
 - b) If the Work is being funded with federal money, the Surety shall be listed in the U.S. Treasury Department Circular 570 and shall be in conformance with the specified Underwriting Limitations.

To the "WHITEBOOK", item 2, subsection "a", subsection "i", DELETE in its entirety and SUBSTITUTE with the following:

- i. A "Payment Bond" (Materials and Labor Bond) is optional. If no bond is submitted, no payment shall be made until 35 Calendar Days after Acceptance and any lien requirements have been fulfilled. If a bond is submitted, progress payments shall be made in accordance with these Specifications.

To the "WHITEBOOK", item 2, subsection "d", DELETE in its entirety and SUBSTITUTE with the following:

- d) For Contracts over \$100,000:
 - i. A "Payment Bond" (Materials and Labor Bond) for 100% of the Contract Price to satisfy claims of material Suppliers and of mechanics and laborers employed on the Work. You shall maintain the bond in full force and effect until Acceptance and until all claims for materials and labor are paid and shall otherwise comply with the Government Code.
 - ii. A "Faithful Performance Bond" for 100% of the Contract Price to guarantee faithful performance of Work, within the time prescribed and in a manner satisfactory to the City, that materials and workmanship shall be free from original or developed defects.

To the "WHITEBOOK", item 7, DELETE in its entirety and SUBSTITUTE with the following:

- 7. You shall require the Surety to mail its standard "Bond Status" form to the Engineer at the following address:
 Deputy Director
 Construction Management and Field Engineering Division
 9573 Chesapeake Drive San Diego, CA 92123

3-13.1 Completion. To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

- 1. You shall submit a written assertion that the Work has been completed and is ready for Owner Acceptance. If, in the Engineer's judgment, the Work has been completed in accordance with the Contract Documents, the Engineer will set forth in writing the date the Work was completed. This will be the date that you are relieved from responsibility to protect and maintain the Work and to which liquidated damages will be computed.

3-13.1.1 Requirements Before Requesting a Walk-through. To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

3-13.1.1 Requirements Before Requesting Substantial Completion.

- 1. The following items are required prior to requesting a Substantial Completion:
 - a) Remove temporary facilities from the Site.

- b) Thoroughly cleaning the Site and removing all mark outs and construction staking.
- c) Provide completed and signed Red lines in accordance with 3-7.3 "Redlines and Record Documents".
- d) Provide all material and equipment maintenance and operation instructions and/or manuals.
- e) Provide all tools which are permanent parts of the equipment installed in the Project.
- f) Provide and properly identify all keys for construction and all keys for permanent Work.
- g) Provide all final Special Inspection reports required by the applicable building Code.
- h) Provide all items specified to be supplied as extra stock. Wrap, seal, or place in a container all items as necessary to allow for storage by the City for future use. Verify the specified quantities.
- i) Ensure that all specified EOCP and certified wage rate documentations covering the Contract Time have been submitted.
- j) If the Work includes installing an irrigation system, provide the spare parts for the proposed irrigation system as specified in the Special Provisions.
- k) If the Work includes sewer and storm drain installations, the inspection shall include televising in accordance with 306-18, "VIDEO INSPECTION".
- l) If the Work includes a Plant Establishment Period, Work in accordance with 801-6, "MAINTENANCE AND PLANT ESTABLISHMENT" shall be completed prior to requesting Substantial Completion, unless approved otherwise by the Owner.
- m) Notify the Engineer to arrange a final inspection of any permanent BMPs installed.

3-13.1.2 Walk-through and Punchlist Procedure. To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. You shall notify the Engineer 15 Working Days in advance of date of anticipated Substantial Completion to allow time for Engineer to schedule a Walk-through.
2. After you complete the requirements in 3-13.1.1, "Requirements Before Requesting Substantial Completion" and when you consider that the Work is Substantially Complete, you will notify the Engineer in writing that the Project is Substantially Complete and request a Walk-through. The Engineer will review your request and determine if the Project is ready for a Walk-through, by verifying whether you have completed all items as required by 3-13.1.1, "Requirements Before Requesting Substantial Completion". Within 7 Working Days, the City will either reject your request for a Walk-through in writing or

schedule and conduct a Walk-through inspection. The Engineer shall facilitate the Walk-through.

3. The following documents shall be provided at the time of your Walk-through request: As-Built markup, Plans, specifications, technical data such as submittals and equipment manuals, draft final payment, warranties, material certifications, bonds, guarantees, maintenance service agreements, and maintenance and operating manuals.
4. Written warranties, except manufacturer's standard printed warranties, shall be on a letterhead addressed to you. Warranties shall be submitted in the format described in this section, modified as approved by the City, to suit the conditions pertaining to the warranty. Lack of submitting these items will delay start of Walk-through.
5. The Engineer will provide you with the Punchlist within 15 Working Days after the date of the Walk-through. The City shall not provide a preliminary Punchlist.
6. If the Engineer finds that the Project is not Substantially Complete as defined herein, the Engineer will terminate the Walk-through and notify you in writing.
7. If, at any time during the Engineer's evaluation of the corrective Work required by the Punchlist, the Engineer discovers that additional corrective Work is required, the Engineer may include that corrective Work in the Punchlist.
8. You shall remain solely responsible for the Project Site until the Project is completely operational, all Punchlist items have been corrected, all operation and maintenance manuals have been approved, all necessary warranty letters have been received, and the work is formally accepted by the City.
9. The Engineer shall meet with you within 5 Working Days of notification that all Punchlist items are corrected. You shall complete the Punchlist within 30 Working Days and Working Days will continue to be counted until Acceptance of the Project.

3-13.2 Acceptance. To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. You shall provide the completed, signed, and stamped DS-563 to the Engineer prior to Acceptance.
2. You shall deliver the final As-builts and final billing prior to Acceptance.
3. You shall assemble and deliver to the Engineer a Final Summary Report and Affidavit of Disposal prior to Acceptance.
4. Acceptance shall occur after all of the requirements contained in the Contract Documents have been fulfilled. If, in the Engineer's judgment, you have fully performed the Contract, the Engineer will recommend to the City Engineer that your performance of the Contract be accepted. You shall receive notification of Acceptance in writing from the Owner and counting of working days shall cease and Warranty begins.

5. Retention can be released 35 Calendar Days after NOC. Submit your request for retention to the Resident Engineer and they will mail to you a "Release of Claims" form which shall be completed and returned before the retention will be released.

3-13.3

Warranty. To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. You shall warranty and repair all defective materials and workmanship for a period of 1 year. This call back warranty period shall start on the date the Work was accepted by the City unless the City has Beneficial Use or takes Occupancy of the project earlier (excluding water, sewer, and storm drain projects).
2. You shall warranty the Work free from all latent defects for 10 years and patent defects for a period of 4 years.
3. The warranty period for specific items covered under manufacturers or suppliers' warranties shall commence on the date they are placed into service at the direction of the Engineer in writing.
4. All express warranties from Subcontractors, manufacturers', or Suppliers', of any tier, for the materials furnished and Work performed shall be assigned, in writing, to the City, and shall be delivered to the Engineer prior to the Acceptance of your performance of the Contract.
5. Replace or repair defective materials and workmanship in a manner satisfactory to the Engineer after notice to do so from the Engineer and within the time specified in the notice. If you fail to make such replacements or repairs within the time specified in the notice, the City may perform the replacement or repairs at your expense. If you fail to reimburse the City for the actual costs, your Surety shall be liable for the cost
6. Items that shall be warrantied free from defective workmanship and materials for a period longer than 1 year are as follows:

Specified Item	Minimum Warranty Period
Detectable Warning Tile Construction	3 Years of Manufacturer's Warranty
All Work Under SECTION 500 - PIPELINE REHABILITATION	3 Years
Fiber Optic Interconnect Cables	2 Years
Luminaires*	10 Years of Manufacturer's Warranty
LED Signal Modules	3 Years of Manufacturer's Warranty
Field Devices Associated with 700-6.3, "Adaptive Control Note"	See 700-6.3.9, "Warranty"

- * Provide documentation verifying that the induction luminaire models being offered for the Project are covered by the 10-year warranty.
7. If installed, you shall provide the City and property owner a copy of the manufacturer's warranty for private sewer pumps, including the alarm panel and all other accessories.
 - a) You shall involve the manufacturer in the installation and startup as needed to secure any extended warranty required.
 - b) Nothing in here is intended to limit any manufacturer's warranty which provides the City with greater warranty rights than set forth in this section or the Contract Documents.
 - c) The warranty shall include all components. The form of the warranty shall be approved by the Engineer in accordance with 3-13.3.2, "Warranty Format Requirements".
 8. If, during the warranty period, any item of the Work is found to be Defective Work, you shall correct it promptly after receipt of written notice from the City to do so. The warranty period shall be extended with respect to portions of the Work corrected as part of the warranty requirements.

SECTION 4 - CONTROL OF MATERIALS

4-3.4 Specialty Inspection Paid for by the Contractor. To the "WHITEBOOK", ADD the following:

2. The specialty inspections required are listed as follows:
 Rehabilitation of Cast-In-Place Concrete, Section 03 01 30.71:
 - a) Part 3.08 A.1: Compressive Strength Mortar Samples per ASTM C109 and ASTM C39
 - b) Part 3.08 A.2: Evaluation of Repairs per ACI 301
 Maintenance of Painting and Coating, Section 09 01 90:
 - a) Part 2.01 General, E.3: Testing and analysis of substituted materials.
 - b) Part 3.10, Field Inspection and Testing:
 Paragraphs A through K
 Paragraph M: One Year Inspection

4-3.6 Preapproved Materials. To the "WHITEBOOK", ADD the following:

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

4-6 TRADE NAMES. To the “WHITEBOOK”, ADD the following:

11. You shall submit your list of proposed substitutions for an “equal” item **no later than 5 Working Days after the determination of the Apparent Low Bidder** and on the City’s Product Submittal Form available at:

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

SECTION 5 – LEGAL RELATIONS AND RESPONSIBILITIES

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

5-4 INSURANCE.

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

5-4.1 Policies and Procedures.

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

5-4.2 Types of Insurance.

5-4.2.1 Commercial General Liability Insurance.

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

<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

5-4.2.2 Commercial Automobile Liability Insurance.

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

5-4.3 Rating Requirements. Except for the State Compensation Insurance Fund, all insurance required by this Contract as described herein shall be carried only by responsible insurance companies with a rating of, or equivalent to, at least "A-, VI" by A.M. Best Company, that are authorized by the California Insurance Commissioner to do business in the State, and that have been approved by the City.

5-4.3.1 Non-Admitted Carriers. The City will accept insurance provided by non-admitted, "surplus lines" carriers only if the carrier is authorized to do business in the State and is included on the List of Approved Surplus Lines Insurers (LASLI list).

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

5-4.4 Evidence of Insurance. Furnish to the City documents e.g., certificates of insurance and endorsements evidencing the insurance required herein and furnish renewal documentation prior to expiration of this insurance. Each required document shall be signed by the insurer, or a person authorized by the insurer to bind coverage on its behalf. We reserve the right to require complete, certified copies of all insurance policies required herein.

5-4.5 Policy Endorsements.

5-4.5.1 Commercial General Liability Insurance.

5-4.5.1.1 Additional Insured.

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

5-4.5.1.2 Primary and Non-Contributory Coverage. The policy shall be endorsed to provide that the coverage with respect to operations, including the completed operations, if appropriate, of the Named Insured is primary to any insurance or self-insurance of the City and its elected officials, officers, employees, agents, and representatives. Further, it shall provide that any insurance maintained by the City and its elected officials, officers, employees, agents, and representatives shall be in excess of your insurance and shall not contribute to it.

- 5-4.5.1.3 Project General Aggregate Limit.** The policy or policies shall be endorsed to provide a Designated Construction Project General Aggregate Limit that will apply only to the Work. Only claims payments which arise from the Work shall reduce the Designated Construction Project General Aggregate Limit. The Designated Construction Project General Aggregate Limit shall be in addition to the aggregate limit provided for the products-completed operations hazard.
- 5-4.5.2 Commercial Automobile Liability Insurance.**
- 5-4.5.2.1 Additional Insured.** Unless the policy or policies of Commercial Auto Liability Insurance are written on an ISO form CA 00 01 12 90 or a later version of this form or equivalent form providing coverage at least as broad, the policy shall be endorsed to include the City and its respective elected officials, officers, employees, agents, and representatives as additional insured, with respect to liability arising out of automobiles owned, leased, hired, or borrowed by you or on your behalf. This endorsement is limited to the obligations permitted by California Insurance Code §11580.04.
- 5-4.6 Deductibles and Self-Insured Retentions.** You shall pay for all deductibles and self-insured retentions. You shall disclose deductibles and self-insured retentions to the City at the time the evidence of insurance is provided.
- 5-4.7 Reservation of Rights.** The City reserves the right, from time to time, to review your insurance coverage, limits, deductibles, and self-insured retentions to determine if they are acceptable to the City. The City will reimburse you, without overhead, profit, or any other markup, for the cost of additional premium for any coverage requested by the Engineer but not required by this Contract.
- 5-4.8 Notice of Changes to Insurance.** You shall notify the City 30 Days prior to any material change to the policies of insurance provided under this Contract.
- 5-4.9 Excess Insurance.** Policies providing excess coverage shall follow the form of the primary policy or policies e.g., all endorsements.
- 5-4.11 Workers' Compensation Insurance and Employers Liability Insurance.**
1. In accordance with the provisions of §3700 of the California Labor Code, you shall provide at your expense Workers' Compensation Insurance and Employers Liability Insurance to protect you against all claims under applicable state workers compensation laws. The City, its elected officials, and employees will not be responsible for any claims in law or equity occasioned by your failure to comply with the requirements of this section.

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

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

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

5-4.11.1 Waiver of Subrogation. The policy or policies shall be endorsed to provide that the insurer will waive all rights of subrogation against the City and its respective elected officials, officers, employees, agents, and representatives for losses paid under the terms of the policy or policies and which arise from Work performed by the Named Insured for the City.

5-10.2.1 Public Notice by Contractor. To the "WHITEBOOK", items 2 and 3, DELETE in their entirety and SUBSTITUTE with the following:

2. No less than 5 Working Days in advance of Project construction activities and utility service interruptions, you shall notify all critical facilities, businesses, institutions, property owners, residents, or any other impacted stakeholders within a minimum 300-foot (90 m) radius of the Project. Verbal and written notifications shall be sent to critical facilities (including but not limited to police stations, fire stations, hospitals, and schools). A copy of written notifications sent to any critical facility shall also be sent to the Resident Engineer. You shall keep records of the people contacted, along with the dates of notification, and shall provide the record to the Engineer upon request. You shall identify all other critical facilities that need to be notified.
3. Furnish and distribute public notices in the form of door hangers using the City's format to all occupants and/or property owners along streets:
 - a) Where Work is to be performed at least Working 5 Working Days before starting construction or survey activities or impacting the community as approved by the Resident Engineer.
 - b) Within 5 Working Days of the completion of your construction activities where Work was performed, you shall distribute public notices in the form of door hangers, which outlines the anticipated dates of Asphalt Resurfacing or Slurry Seal.
 - c) 72 hours in advance of the scheduled resurfacing.

5-13

ELECTRONIC COMMUNICATION. To the “WHITEBOOK”, DELETE in its entirety and SUBSTITUTE with the following:

1. Virtual Project Manager shall be used on this Contract.
2. You shall post all communications addressed to the Engineer concerning construction including RFIs, submittals, daily logs including the Weekly Statement of Working Days (WSWD), Storm Water, and transmittals to the Virtual Project Manager (VPM) website established for the Projects. This shall not supersede any Federal requirements.
3. Maintain a list of scheduled activities including planned and actual execution dates for all major construction activities and milestones defined in the approved Schedule.
4. Review and act on all communications addressed to you in the VPM project website.
5. A user’s guide to the VPM system is available on the City’s website and shall be provided to you at the Pre-construction Meeting. Refer to the VPM training videos and forms at the location below:
<https://www.sandiego.gov/ecp/edocref/>
6. Submit the Sensitive Information Authorization Acknowledgement Form and VPM User Agreement located in the VPM user’s guide at the Pre-construction Meeting.

5-15.1

General. To the “WHITEBOOK”, item 10, DELETE in its entirety and SUBSTITUTE with the following:

1. If your construction activities have encountered flammable liquids or other hazardous substances, you shall ensure that construction staff have the required Hazardous Waste Operations and Emergency Response (HAZWOPER) certification. Construction staff shall include City Engineers, City Laboratory Technicians, and City staff that perform onsite inspections.
 - a. If your Work encounters flammable liquids or other hazardous substances, you shall be responsible for scheduling training for all construction staff to attend and for submitting verification to the Engineer that construction staff have the required HAZWOPER certification prior to continuing that Work in that area. You shall maintain the HAZWOPER certifications annually until the construction activities triggering the requirement is complete, as approved by the Resident Engineer.

SECTION 6 – PROSECUTION AND PROGRESS OF THE WORK

6-1.1

Construction Schedule. To the “GREENBOOK”, paragraph (1), sentence (1), DELETE in its entirety and SUBSTITUTE with the following:

After notification of award of the Contract and prior to the start of any Work, you

shall submit your proposed Cost Loaded Construction Schedule to the Engineer at the pre-construction meeting.

To the "WHITEBOOK", item 1, subsection "e", "h", and "s", DELETE in their entirety and SUBSTITUTE with the following:

- e) Monthly progress payments are contingent upon the submittal of an updated Schedule to the Engineer. The Engineer may refuse to process the whole or part of any monthly payment if you refuse or fail to provide an acceptable schedule.
- h) Your Schedule shall include 7 Working Days for the Engineer to schedule and conduct a Walk-through inspection and 15 Working Days for the generation of the Punchlist. You shall Work diligently to complete all Punchlist items within 30 Working Days after the Engineer provides the Punchlist.
- s) Submit an updated cash flow forecast with every pay request (for each Project ID or WBS number provided in the Contract) showing periodic and cumulative construction billing amounts for the duration of the Contract Time. If there has been any Extra Work since the last update, include only the approved amounts.
 - b) Refer to the Sample City Invoice materials in **Appendix D - Sample City Invoice with Cash Flow Forecast** and use the format shown.
 - c) See also the "Cash Flow Forecast Example" at the location below:
<https://www.sandiego.gov/ecp/edocref/>

6-1.1.2 Contracts More Than \$500,000 In Value. To the "WHITEBOOK", item 1, DELETE in its entirety and SUBSTITUTE with the following:

- 1. Provide the Schedule to the Engineer in accordance with 6-1.1, "Construction Schedule" and 6-1.2, "Commencement of the Work".

To the "WHITEBOOK", item 2, DELETE in its entirety.

6-1.2 Commencement of the Work. To the "WHITEBOOK", ADD the following:

- 1. You shall submit a Cost Loaded Construction Schedule in accordance with 6-1.1, "Construction Schedule" at the scheduled pre-construction meeting.
- 2. If a Cost Loaded Construction Schedule is not provided, the pre-construction meeting will still be held. The Contract Time shall commence at issuance of the NTP, but you shall be limited to the following activities until the Cost Loaded Construction Schedule has been submitted to the Resident Engineer with no exceptions taken:
 - a) Mobilization of your trailers, associated utility setup, and grading for trailer area
 - b) Permit Procurement
 - c) Fencing and temporary utilities for your storage areas

- d) Submittal of anticipated critical path submittals

6-1.5.2 Excusable Non-Compensable Delays. To the “WHITEBOOK”, DELETE in its entirety and SUBSTITUTE with the following:

6-1.5.2 Excusable Non-Compensable and Concurrent Delays.

1. The City shall only issue an extension of time for Excusable Delays that meet the requirements of 6-4.2, “Extensions of Time” for the following circumstances:
 - a) Delays resulting from Force Majeure.
 - b) Delays caused by weather.
 - c) Delays caused by changes to County, State, or Federal law.
2. When a non-excusable delay is concurrent with an Excusable Delay, you shall not be entitled to an extension of Contract Time for the period the non-excusable delay is concurrent with the Excusable Delay.
3. When an Excusable Non-Compensable Delay is concurrent with an Excusable Compensable Delay, you shall be entitled to an extension of Contract Time, but shall not be entitled to compensation for the period the Excusable Non-Compensable Delay is concurrent with the Excusable Compensable Delay.

6-4.2 Extensions of Time. To the “WHITEBOOK”, DELETE in its entirety and SUBSTITUTE with the following:

1. The Contract Time shall not be modified except by Change Order.
2. You shall notify the City in writing within **1 Working Day** after the occurrence and discovery of an event that impacts the Project Schedule.
 - a) If you believe this event requires a Change Order, you shall submit a written Change Order request with a report to the City that explains the request for Change Order within **5 Working Days**. The Change Order request must include supporting data, a general description of the discovery, the basis for extension, and the estimated length of extension. The City may grant an extension of time, in writing, for the Change Order request if you require more time to gather and analyze data.
3. The Engineer shall not grant an extension of Contract Time in accordance with 6-1.5, “Excusable Delays” unless you demonstrate, through an analysis of the critical path, the following:
 - a) The event causing the delay impacted the activities along the Project’s critical path.
 - b) The increases in the time to perform all or part of the Project beyond the Contract Time arose from unforeseeable causes beyond your

control and without your fault or negligence and that all project float has been used.

4. Any modifications to the Contract Time will be incorporated into the weekly document that the Engineer issues that stipulates the Contract Time. If you do not agree with this document, submit to the Engineer for review a written protest supporting your objections to the document within **30 Calendar Days** after receipt of the statement. Your failure to file a timely protest shall constitute your acceptance of the Engineer's weekly document.
 - a) Your protest will be considered a claim for time extension and shall be subject to 2-10.1, "Claims".

6-4.4 **Written Notice and Report.** To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. Your failure to notify the Resident Engineer within **1 Working Day** OR provide a Change Order request within **5 Working Days** after the event, in accordance with 6-4.2, "Extensions of Time", will be considered grounds for refusal by the City to consider such request if your failure to notify prejudices the City in responding to the event.

ADD:

6-6.1.1 **Environmental Document.**

1. The City of San Diego has prepared a **Notice of Exemption** for **Otay Water Treatment Plant Basin No.1 Concrete Restoration**, Project No, **B-17092.02.06**. as referenced in the Contract Appendix. You shall comply with all requirements of the **Notice of Exemption** as set forth in **Appendix A**.
2. Compliance with the City's environmental document shall be included in the Contract Price unless separate bid items have been provided.

SECTION 7 – MEASUREMENT AND PAYMENT

7-3.1 **General.** To the "GREENBOOK" and "WHITEBOOK", paragraph (8), DELETE in its entirety and SUBSTITUTE with the following:

If, within the time fixed by law, a properly executed notice to stop payment is filed with the City, due to your failure to pay for labor or materials used in the Work, all money due for such labor or materials will be withheld from payment in accordance with applicable laws.

To the "WHITEBOOK", ADD the following:

1. Unless specified otherwise, the Contract Price includes use, consumer, and other taxes mandated by applicable legal requirements.
2. As provided in §7105 of the California Public Contract Code, if the Contract is not financed by revenue bonds, you are not responsible for the cost of repairing or restoring damage to the Project when damage was proximately

caused by an act of God, in excess of 5% of the Contract Price, if the following occur:

- a) The Project damaged was built in accordance with the Contract requirements.
- b) There are no insurance requirements in the Contract for the damages.

7-3.2

Partial and Final Payment. To the "WHITEBOOK", item 1, DELETE in its entirety and SUBSTITUTE with the following:

1. The Final Payment, which is the release of Retention, shall be paid to you after you have successfully submitted the following required documents:
 - a) An affidavit that payrolls and bills for materials, equipment, and other indebtedness connected with the Work for which the City or the City's property might be responsible for or encumbered by.
 - b) A certificate evidencing that insurances required by the Contract Documents shall remain in force after Final Payment is currently in effect and shall not be canceled or allowed to expire until at least a 30 Calendar Days prior written notice has been given to the Engineer.
 - c) Consent of Surety to Final Payment.
 - d) If required by the Engineer, other data establishing payment or satisfaction of obligations such as receipts, releases and waivers of liens, claims, and security interests or encumbrances arising out of the Contract Documents. If a Subcontractor refuses to furnish a release or waiver required by the City, you may furnish a bond satisfactory to the Engineer to indemnify the City against such lien.
 - e) If required in the Contract Documents, the successful completion and submittal of the required reports such as construction demolition, waste recycling, and hydrostatic discharge reports.
 - f) Required EOCP Final Summary Report in accordance with Section 0-12, "Contract Records and Reports", record drawings, operations manuals, test reports, warranty documentation, and UL labels shall be submitted before requesting the release of retention.
 - g) Acceptance of the completed Project by the asset owning Department.

To the "WHITEBOOK", ADD the following:

2. Submit an invoice for payment after you successfully complete the required documents and the City will pay the invoice within 30 Calendar Days. The City will pay 6% annually for late retention payments.

7-3.2.1 Application for Progress Payment. To the "WHITEBOOK", item 3, DELETE in its entirety and SUBSTITUTE with the following:

3. The City shall not pay progress or partial payments until you submit to the Engineer an acceptable updated Schedule. It is solely your responsibility to prepare and submit the Schedule updates.

7-3.2.2 Amount of Progress Payments. To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. The City will pay 6% annually for late progress payments.
2. Progress payments will be considered "late" if the following occur:
 - a) The City does not pay the contractor within 30 Calendar Days from receipt of an undisputed and properly submitted invoice. A properly submitted payment invoice means that the City has approved for payment the entire invoice amount or if the Resident Engineer has not disputed any portion of the application within 7 Calendar Days of the date of submission.
 - b) The application for payment does not require signing of a Contract Change Order.
3. The Engineer may withhold payment for any of the following reasons:
 - a) Defective or incomplete Work.
 - b) Not providing an updated and accurate Cost Loaded Construction Schedule in accordance with 6-1.1, "Construction Schedule".
 - c) Stop notices, wage orders, or other withholdings required by Applicable Law. Your failure to comply with 5-3.3, "Payroll Records" and the Contractor Registration and Electronic Reporting System requirements of the Contract Documents.
4. The Engineer may back charge the contract for any of the following reasons:
 - a) Defective or incorrect Work not remedied.
 - b) Damage to City property or a third party's property that was caused by you.
 - c) Liquidated Damages.

7-3.2.3 Waiver of Claims at Final Payment. To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. Your acceptance of Final Payment constitutes a waiver of affirmative Claims by you, except those previously made in writing and identified as unsettled at the time of Final Payment.

7-3.2.4 Withholding of Payment and Back Charge. To the "WHITEBOOK", DELETE in its entirety.

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

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

7-4.3 Markup. To the "WHITEBOOK", item 4, DELETE in its entirety and SUBSTITUTE with the following:

4. When a Subcontractor is performing Extra Work, the allowance for overhead and profit shall be applied to the labor, materials, and equipment costs of the Subcontractor as follows:
 - a) Regardless of the number of a Subcontractor's tasks for Extra Work, you may only apply 10% for the first \$50,000 of the Subcontractor's portion of accumulated total cost than 5% for any remaining costs. You shall not apply 10% to any costs after the first \$50,000 of accumulated total costs from performing Extra Work.
 - b) If the accumulated costs of single or subsequent tasks exceed the \$50,000 threshold, you shall instead only apply 5% to any amounts in excess of the \$50,000.
 - c) Regardless of the number of hierarchical tiers of Subcontractors, you may only markup a Subcontractor's Work once.

SECTION 302 – ROADWAY SURFACING

302-4.5 Scheduling, Public Convenience and Traffic Control. To the "GREENBOOK", paragraphs (1) and (2), DELETE in their entirety and SUBSTITUTE with the following:

1. In addition to the requirements of Part 6, you shall comply with the following:
 - a) At least 5 Working Days prior to commencing the Work, you shall submit your proposed Schedule to the Engineer for approval.
 - b) Based upon the approved schedule, you shall notify residents and businesses of the Work and post temporary "No Parking" signs 72 hours in advance.
 - c) Requests for changes in the approved Schedule shall be submitted to the Engineer for approval at least 3 Working Days before the street is scheduled to be sealed.

SECTION 303 – CONCRETE AND MASONRY CONSTRUCTION

303-5.1.1 General. To the “WHITEBOOK”, ADD the following:

1. For the purposes of this section, the terms “walk” and “access ramp” shall be synonymous with “sidewalk” and “curb ramp and pedestrian ramp”, respectively.

SECTION 306 – OPEN TRENCH CONDUIT CONSTRUCTION

306-3.3 Removal and Abandonment of Existing Conduits and Structures. To the “WHITEBOOK”, DELETE in its entirety and SUBSTITUTE with the following:

1. For 6 inch (152.4 mm) and larger conduits, abandoned pipe shall be filled with sand or CLSM in accordance with 201-6, “CONTROLLED LOW STRENGTH MATERIAL (CLSM)”.

SECTION 402 – UTILITIES

402-7.2 Pipe Separations. To the “WHITEBOOK”, item 1, subsection “a”, DELETE in its entirety and SUBSTITUTE with the following:

- a) You shall notify the Engineer immediately if:
 - i. 1 foot (0.3 m) vertical separation as measured from the outside of pipe wall to the outside of pipe wall between sewer and water mains cannot be maintained.
 - ii. 10 feet (3.0 m) horizontal separation as measured from the outside of pipe wall to the outside of pipe wall between sewer and water mains cannot be maintained.
 - iii. 6 inches (152.4 mm) vertical separation as measured from the outside of pipe wall to the outside of pipe wall between utilities other than sewer and water mains cannot be maintained.
 - iv. 3 feet (0.9 m) or more of cover over the top of the water main cannot be maintained.
 - v. 5 feet (1.5 m) or more of cover over the top of the recycled water main cannot be maintained.

SECTION 600 - ACCESS

600-1 GENERAL. To the “WHITEBOOK”, item 5, DELETE in its entirety and SUBSTITUTE with the following:

5. You shall notify Environmental Services Department via email (trash@sandiego.gov) of street closures affecting the regular scheduled solid waste collection at least 3 Working Days prior to the street closure. Include

your business name and phone number, days of closure, time of scheduled closure, and date of anticipated street reopening in the notification.

- a) You shall verify waste collection schedules via the Environmental Services website at:

<http://www.sandiego.gov/environmental-services/collection/index.shtml>

- b) You shall comply with the following requirements for trash, recycling, and yard waste collection:

- i. Provide advance written notice to every property affected by blocked public right of way.
- ii. Coordinate the relocation of trash, recycling, and yard waste containers to an accessible public street for the City's waste collection crews on collection day.
- iii. When necessary, relocate the containers from the blocked streets to the accessible public right of way before the City's collection vehicles arrive to assist with collection on existing schedules. Return the containers to their point of origin to ensure the accuracy of inventory assignment by address.

- c) If the City's crews are unable to provide the citizens with the mandated services due to your failure to comply with these specifications, you shall collect trash, recyclables, and yard waste on the City's schedule and deliver to the City's designated locations. If you fail to perform this Work, you shall incur additional costs for the City to reschedule pick up of an area.

SECTION 601 - TEMPORARY TRAFFIC CONTROL FOR CONSTRUCTION AND MAINTENANCE WORK ZONES

601-2.1.4 **Traffic Control for Resurfacing and Slurry Sealing.** To the "WHITEBOOK", item 3, subsection "d", DELETE in its entirety and SUBSTITUTE with the following:

- d) Place "NO PARKING - TOW-AWAY ZONE" signs 72 hours in advance of the scheduled slurry sealing. Reschedule street block segments which are not completed by the last posted Working Day. If a Work delay of 48 hours or more occurs from the originally scheduled Work date, remove the "NO PARKING - TOW-AWAY ZONE" signs for a minimum of 24 hours, then reset and re-post for the appropriate Work date.

601-3.5.1 **General.** To the "WHITEBOOK", item 3, DELETE in its entirety and SUBSTITUTE with the following:

3. Temporary "No Parking" and "No Stopping" signs shall be installed 72 hours before enforcement. Temporary "No Parking" and "No Stopping" signs shall be

installed and removed as specified in the Special Provisions. Signs shall indicate specific days, dates, and times of restrictions. If violations occur, call Police Dispatch 619-531-2000 to enforce the Tow-Away notice.

601-3.6 Channelizing Devices. To the "WHITEBOOK", item 4, Barricades, ADD the following:

- h) You shall place "OPEN TRENCH" signs (C27(CA)) on Type 3 Barricade within the construction Work zone, ahead of any Work areas with open trenches that are greater than 3 inches in depth, in accordance with California MUTCD SECTION 6F.103 (CA). The barricades shall be placed in a continuous manner and shall prevent pedestrian, vehicular, and biker access to the open trench area.

SECTION 1001 – CONSTRUCTION BEST MANAGEMENT PRACTICES (BMPs)

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

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

TECHNICALS

TABLE OF CONTENTS

DIVISION 1 – GENERAL REQUIREMENTS

01 11 00	SUMMARY OF WORK
01 12 16	WORK SEQUENCE
01 22 13	UNIT PRICE MEASUREMENT AND PAYMENT
01 25 00	SUBSTITUTION PROCEDURES
01 31 13	PROJECT COORDINATION
01 31 19	PROJECT MEETINGS
01 32 33	PHOTOGRAPHIC AND VIDEO DOCUMENTATION
01 33 00	SUBMITTAL PROCEDURES
01 35 43	ENVIRONMENTAL PROCEDURES
01 41 00	PERMITS AND REGULATORY REQUIREMENTS
01 42 00	REFERENCES
01 45 00	QUALITY CONTROL
01 50 00	TEMPORARY UTILITIES AND CONSTRUCTION FACILITIES
01 71 23	FIELD ENGINEERING
01 73 29	CUTTING AND PATCHING
01 77 00	CLOSEOUT PROCEDURES

DIVISION 3 - CONCRETE

03 01 30.71	REHABILITATION OF CAST-IN-PLACE CONCRETE
03 20 00	CONCRETE REINFORCING
03 64 00	INJECTION GROUTING

DIVISION 5 - METALS

05 05 19	POST-INSTALLED CONCRETE ANCHORS
05 50 00	METAL FABRICATIONS

DIVISION 6 - WOOD, PLASTICS, AND COMPOSITES

06 10 53	MISCELLANEOUS ROUGH CARPENTRY
----------	-------------------------------

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

07 01 90.71	JOINT SEALANT REHABILITATION
-------------	------------------------------

DIVISION 9 - FINISHES

09 01 90	MAINTENANCE OF PAINTING AND COATING
----------	-------------------------------------

DIVISION 11 - EQUIPMENT

11 01 00	OPERATION AND MAINTENANCE OF EQUIPMENT
----------	--

DIVISION 33 - UTILITIES

33 01 10.59	DISINFECTION OF WATER UTILITY STORAGE TANKS AND PIPING
-------------	--

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01 11 00

SUMMARY OF WORK

PART 1 - GENERAL

1.01 SCOPE

- A. The Work to be performed under this Contract shall consist of furnishing all plant, tools, equipment, materials, supplies, and manufactured articles and furnishing all labor, transportation and services, including fuel, power, water, and essential communications, and performing all work, or other operations required for the fulfillment of the Contract in strict accordance with the Contract Documents. The Work shall be complete, and all work, materials, and services not expressly indicated or called for in the Contract Documents which may be necessary for the complete and proper construction of the Work in good faith shall be provided by the CONTRACTOR as though originally so indicated, at no increase in cost to the OWNER.

1.02 RELATED SECTIONS

- A. The Work of the following Sections apply to the Work of this Section. Work of other Sections of the Specifications, not referenced below, shall also apply to the extent required for proper performance of this Work.
 - 1. Section 01 12 16 Work Sequence
 - 2. Section 01 50 00 Temporary Utilities and Construction Facilities
 - 3. Section 01 35 43 Environmental Procedures
 - 4. Standard Specifications for Public Works Construction (SSPWC) also as known as the "Greenbook", 2018 edition. References to the SSPWC shall include requirements and modifications stated in all supplements, amendments, and special provisions as adopted or issued by the OWNER. Technical specifications shall take precedence over the Greenbook.
 - 5. The "Whitebook", Standard Specifications for Public Works Construction, the City of San Diego supplement to the Greenbook, 2018 edition.

1.03 CONTRACT METHOD

- A. The Work, hereunder will be constructed under a single lump sum contract.

1.04 WORK BY OTHERS

- A. The CONTRACTOR's attention is directed to the fact that work may be conducted concurrently at the site by other contractors during the performance of the Work under this Contract. The CONTRACTOR shall conduct its operations so as to cause a minimum of interference with the work of such other contractors, and shall cooperate fully with such contractors to provide continued safe access to their respective portions of the site, as required to perform work under their respective contracts.

- B. Interference With Work On Utilities: The CONTRACTOR shall cooperate fully with all utility forces of the OWNER or forces of other public or private agencies engaged in the relocation, altering, or otherwise rearranging of utilities which interfere with the progress of work by others, and shall schedule the Work so as to minimize interference with said relocation, altering, or other rearranging of facilities.

1.05 WORK SEQUENCE

- A. Standard working hours are 7:00AM to 3:00PM, Monday through Friday. If required, critical short duration shutdowns will be conducted during off peak hours from 9:00PM to 6:00AM. Further shutdown request information is included in Section 01 12 16.
- B. The CONTRACTOR's attention is directed to the fact that any shutdown, such as the settled water channel, shall be coordinated with, and approved by, the Otay Water Treatment Plant staff. The CONTRACTOR, through their actions on the plant site, shall incur no interruption in water delivery and the CONTRACTOR shall so schedule its construction operations that no interference with the operation of the Otay Water Treatment Plant.

1.06 CONTRACTOR USE OF PROJECT SITE

- A. The CONTRACTOR's use of the project site shall be limited to its construction operations, including on-site storage of materials, on-site fabrication facilities, and field offices.
- B. The CONTRACTOR shall not use the indicated portion of the site until further notice for any of its construction operations.

1.07 OWNER USE OF THE PROJECT SITE

- A. The OWNER may utilize all or part of the existing facilities during the entire period of construction. The CONTRACTOR shall cooperate and coordinate with the OWNER and CONSTRUCTION MANAGER to facilitate the OWNER's operations and to minimize interference with the CONTRACTOR's operations at the same time. In any event, the OWNER shall be allowed access to the project site during the period of construction.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

**** END OF SECTION ****

SECTION 01 12 16

WORK SEQUENCE

PART 1 - GENERAL

1.01 SCOPE

- A. This specification sets forth the sequence for some of the major elements of the Work; it is not all-inclusive. The sequence specified here is required to maintain continued operation of the Otay Water Treatment Plant including keeping the Settled Water Channel in service until such time that it may be safely dewatered, inspected and repaired under a planned shutdown. The construction sequence set forth below includes the following major elements of the Work:
1. Knock down all protruding aggregate which is not firmly embedded.
 2. Perform foreign object removal and patching.
 3. Determine settled water channel injection grouting and crack repair, see specification 03 64 00. Initiate a shutdown request per specification 01 12 16, section 1.04. Perform injection grouting of settled water channel if required via a shutdown request form, end of this specification.
 4. Perform crack repair within basin no. 1. See specification 03 64 00.
 5. Perform expansion joint and construction joint repair.
 6. Perform concrete rehabilitation and rebar repair for complete restoration of sweep guide.
 7. Perform coating and cathodic protection of valves, energy dissipator and all other metal within basin no. 1 excluding mixing paddles.
 8. Apply scrub coat of mortar to manually fill prepared existing profile. See Specification 03 01 30.71.
 9. Apply cementitious overlay to prepare surface for recoating. See specification 03 01 30.71.
 10. Repair bugholes, prepare surface for epoxy coating and holiday testing. See specification 09 01 90.
 11. Apply final epoxy coating of prepares surfaces. See specification 09 01 90.
 12. Replacement of primary and secondary redwood baffles in basin No. 1.
- B. Schedule and perform the Work under this Contract in such a manner as to result in the least possible disruption to the operation of the existing Otay Water Treatment Plant. Submit to the ENGINEER a construction schedule covering the Construction Sequence activities before any Work begins. Coordinate all shutdowns, tie-ins to existing facilities, and operation of facilities with the City. All shutdowns or tie-ins, regardless of the duration or the size of the shutdown, shall be authorized by the City using the Shutdown Request Form provided in this specification. See specification 01 31 13 Project Coordination for additional information related to shutdowns and coordination with plant staff during construction. See shutdown request form, end of this specification.

1.02 RELATED SECTIONS

- A. The Work of the following Sections apply to Work of this Section. Work of other Sections of the Specifications, not referenced below, shall also apply to the extent required for proper performance of the Work.
 - 1. Section 01 11 00 Summary of Work.
 - 2. Section 01 31 13 Project Coordination.
 - 3. Section 01 41 00 Permits and Regulatory Requirements.
 - 4. Section 01 33 00 Submittal Procedures.

1.03 CONTRACTOR SUBMITTALS

- A. The CONTRACTOR shall furnish submittals in accordance with Section 01 33 00, Submittal Procedures.
 - 1. Proposed Construction Sequence other than the Construction Sequence suggested in this Section.
 - a. Develop and submit a detailed description of the complete sequence of construction for all of the events contained herein, including all shut-downs.
 - b. Associated temporary bypasses and construction required to accommodate construction sequencing.
 - c. Schedule for all requested shutdowns of existing water system facilities.

1.04 OPERATIONAL REQUIREMENTS

- A. Water System Facility Shutdowns.
 - 1. Removal of water transmission and storage facilities from service, in order to enable connections, rehabilitation or inspections, must be conducted during low demand periods between November 1 and April 1. Critical short duration shutdowns must be conducted during off peak hours, between the hours of 9:00 p.m. and 6:00 a.m.
 - a. Precise scheduling of system shutdowns is subject to regional conditions. Procedures for coordinating shutdowns are outlined in Section 01 31 13, Project Coordination.
 - b. Nightwork during shutdown conditions require a Noise Permit in accordance with Section 01 41 00, Permits and Regulatory Requirements.
- B. Construction Sequence
 - 1. The suggested construction sequencing is provided to enable performance of the Work with minimal impact on facility operation.
 - a. The suggested construction sequence is general in nature and does not include all steps or details required to complete the Work.
 - b. Only tasks associated with proper sequencing of the Work are addressed.

- c. The suggested construction sequence is not intended to define the methods of construction, but to assist the CONTRACTOR in identifying operational and practical constraints within which the Work must be constructed. The CONTRACTOR'S proposed changes to the suggested construction sequence must present equivalent or lesser impact to water system operations.
- d. Evaluate the proposed sequence and provide additional construction sequencing, temporary facilities, construction, and coordination as required to complete the Work.
- e. Coordinate sequence with construction schedule as described in City of San Diego "Whitebook", City supplement to the Standard Specifications for Public Works Construction, 2018 Edition, Section 6-1.1.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 EXAMINATION

- A. CONTRACTOR shall visit the site and become aware of existing conditions that may affect the sequencing of the Work and include provision in the bid price for same.

SHUTDOWN REQUEST FORM

PROJECT: Otay Water Treatment Basin No. 1 Concrete Restoration

OWNER: City of San Diego
1500 Wueste Road
Chula Vista, CA 91915

OWNER CONTACT: Otay Water Treatment Plant – Senior Water Operations Supervisor

CONTRACTOR REQUEST

Date Submitted: _____

PLEASE NOTE: Shutdown requests must be submitted at least 15 working days from the date requested for the shutdown, regardless of the nature of the shutdown. Attach backup documentation of sequence, procedures, planned durations as necessary to review the request.

General Contractor

Subcontractor

Company: _____

Company: _____

Name: _____

Name: _____

Phone: _____

Phone: _____

Type of shutdown requested (include detailed sequence and schedule for major activities):

Identify equipment needed out of service and expected maximum duration of outage:

Reason for shutdown:

Special requirements, Contingency Plans, bypass requirements, redundancy and risk/hazard analysis, lock out/tag out procedures, temporary power requirements, etc.:

Date by which notification/confirmation of shutdown is required:

Proposed start date and start time of shutdown:

Proposed end date and end time of shutdown:

Shutdown meeting location and time:

Alternate date for shutdown in case original date cannot be met:

Approved By: _____ **Date:** _____
City Construction Manager

**** END OF SECTION ****

THIS PAGE LEFT INTENTIONALLY BLANK

SECTION 01 22 13

UNIT PRICE MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.01 SCOPE

- A. Payment for the various items of the Bid Schedule, as further specified herein, shall include all compensation to be received by the CONTRACTOR for furnishing all tools, equipment, supplies, and manufactured articles, and for all labor and services, operations, and incidentals appurtenant to the items of Work being described, as necessary to complete the various items of the WORK all in accordance with the requirements of the Contract Documents, including all appurtenances thereto, and including all costs of permits and cost of compliance with the regulations of public agencies having jurisdiction, including Safety and Health Requirements of the California Division of Industrial Safety and the Occupational Safety and Health Administration of the U.S. Department of Labor (OSHA). No separate payment will be made for any item that is not specifically set forth in the Bid Schedule, and all costs therefore shall be included in the prices named in the Bid Schedule for the various appurtenant items of Work.

1.02 RELATED SECTIONS

- A. The Work of the following Section applies to Work of this Section. Other Sections of the Work not referenced below shall also apply to the extent required for proper performance of the Work.
 - 1. Document Bid Schedule
 - 2. Subsection 7 Measurement and Payment, Part 1 Special Provisions-General of the Contract Documents.

1.03 BONDS (PAYMENT AND PERFORMANCE NOT TO EXCEED 2.5% OF CONTRACT AMOUNT) [LUMP SUM]

- A. No measurement shall be made for this Item.
- B. Payment is made for this item for the Bonds required under this contract and shall be made as the lump sum price named in the Bid Schedule under Item No. 1 and in accordance with the City of San Diego "Whitebook", City supplement to the Standard Specifications for Public Works Construction, 2018 Edition, Section 1-7.2.1.

1.04 MOBILIZATION AND DEMOBILIZATION [LUMP SUM]

- A. No measurement shall be made for this item.
- B. Payment is made for this item for office trailers, temporary sheds, temporary utilities, all temporary facilities, and all preparatory work prior to the commencement of productive work at the site required under this contract. Payment for this item also includes demobilization, removal of said temporary

facilities and return of the Otay Water Treatment Plant to the conditions and requirements of the Contract Documents. Payment under this bid item shall be made as the lump sum price named in the Bid Schedule under Item 2 and in accordance with the City of San Diego "Whitebook", City supplement to the Standard Specifications for Public Works Construction, 2018 Edition, Section 7-3.4.1.

1.05 REBAR REPAIR [PRICES BASED UPON LINEAR FOOT MEASURE]

- A. Measurement for payment of rebar repair will be based on the number of linear feet actually repaired, as determined by measurement along the center line of such repaired rebar. This bid item includes exposing of damaged or corroded rebar, removal of that rebar, exposure to sound steel, corrosion protection with approved epoxy bonding agent and patching of exposed rebar suitable for cementitious overlay and protective coating.
- B. Payment for Rebar Repair will be made at the unit price per linear foot named in the Bid Schedule under Item 3 which price shall include full compensation for providing all labor materials, tools, equipment, and incidentals, and for doing all work involved in removal and disposal of existing rebar, providing all necessary temporary support systems and structures, cleaning rebar, protecting with anti-corrosive coating, furnishing and installing new rebar, and providing all connections, blasting, and welds necessary to tie in new or repair rebar as shown on the Drawings or as specified in the Specification.

1.06 CRACK REPAIR (1/32-INCH TO 1/8-INCH) [PRICES BASED UPON LINEAR FOOT MEASURE]

- A. Measurement for payment of Crack Repair (1/32-inch to 1/8-inch, measured as width) will be based on the number of linear feet actually repaired, as determined by measurement along the center line of such crack.
- B. Payment for Crack Repair (1/32-inch to 1/8-inch) will be made at the unit price per linear foot named in the Bid Schedule under Item 4 which price shall include full compensation for providing all labor materials, tools, equipment, and incidentals, and for doing all work involved in preparing the existing surface, grooving existing crack, furnishing and installing grout for crack repair, post installation surfacing and reworking or repairs, and sealing of cracks with epoxy gel as shown on the Drawings or as specified in the Specification for surface cracks with depths between 1/32-inch to 1/8-inch.

1.07 EXPANSION JOINT REPAIR (NO CONCRETE DAMAGE) [PRICES BASED UPON LINEAR FOOT MEASURE]

- A. Measurement for payment of Joint Repair (with or without concrete damage) will be based on the number of linear feet actually repaired, as determined by measurement along the center line of such joint. All expansion joints, horizontal and vertical, shall be repaired within Basin No. 1.
- B. Payment for Joint Repair (with or without concrete damage) will be made at the unit price per linear foot named in the Bid Schedule under Item 5 which price shall include full compensation for providing all labor materials, tools, equipment, and incidentals, and for doing all work involved in routing and removal of fiber joint

material, cleaning and preparation of surfaces, furnishing and installing bond breaker, backing bar and elastomeric joint sealant as shown on the Drawings or as specified in the Specification.

1.08 EXPANSION JOINT RESTORATION [PRICES BASED UPON LINEAR FOOT MEASURE]

- A. Measurement for payment of Joint Restoration will be based on the number of linear feet actually restored, as determined by measurement along the center line of such joint. All expansion joints, horizontal and vertical, shall be repaired within Basin No. 1.
- B. Payment for Expansion Joint Restoration will be made at the unit price per linear foot named in the Bid Schedule under Item 6 which price shall include full compensation for providing all labor materials, tools, equipment, and incidentals, and for doing all work involved in cleaning and restoring of fiber joint material, cleaning and preparation of surfaces, creation of U-groove, restoration of bond breakers, backing bars and elastomeric joint sealant as shown on the Drawings or as specified in the Specification.

1.09 FOREIGN OBJECT REMOVAL AND REPAIR [PRICES BASED UPON QUANTITY, EACH]

- A. Measurement for payment of Foreign Object Removal will be based on the number of foreign obstructions actually removed. Areas which exhibit spalling, illustrated by Detail 3, Drawing C-3, shall also be paid under this bid item.
- B. Payment for Foreign Object Removal will be made at the unit price per each named in the Bid Schedule under Item 7 which price shall include full compensation for providing all labor materials, tools, equipment, and incidentals, and for doing all work involved in the removal and discarding of foreign objects as shown on the Drawings or as specified in the Specification.

1.10 ABRASIVE BLASTING [PRICES BASED UPON AREA (PER SQUARE FOOT) MEASURE]

- A. Measurement for payment of Abrasive Blasting will be based on the number of square footage of area to receive concrete restoration, as determined by measurement of these areas within Basin No. 1.
- B. Payment for Abrasive Blasting will be made at the unit price per each named in the Bid Schedule under Item 8 which price shall include full compensation for providing all labor materials, tools, equipment, and incidentals, and for doing all work involved in the removal and discarding of foreign objects as shown on the Drawings or as specified in the Specification.

1.11 CEMENTITIOUS MORTAR OVERLAY [PRICES BASED UPON FINISHED SURFACE AREA (PER SQUARE FOOT)]

- A. Measurement for payment of Cementitious Mortar Overlay will be based upon the number of square feet of finished surface area to be covered and includes scrub

coats, filler coats and final coats necessary to restore the concrete surface ready for protective coating.

- A. Payment for Cementitious Mortar Overlay will be made at the unit price per square foot named in the Bid Schedule under Item 9 which price shall include full compensation for providing all labor materials, tools, equipment, and incidentals, and for doing all work involved in blade chipping and reduction or protruding aggregate, filling of existing pockets, cracks, and other profile differentials, furnishing and installing cementitious overlay base coat, furnishing and installing cementitious overlay final coat to meet thickness requirements and as shown on the Drawings or as specified in the Specification.

1.12 PROTECTIVE COATINGS [LUMP SUM]

- A. No measurement shall be made for this Item.
- B. Payment is made for this item for surface preparation, application, quality assurance/quality control, inspection, testing and materials for protective coatings of piping, valves, structures, walls, floors, soffits, columns, equipment and miscellaneous components within the Work by a qualified applicator and meeting the requirements of the Contract Documents. Payment under this bid item shall be made as the lump sum price named in the Bid Schedule under Item 10.

1.13 INJECTION GROUTING OF SETTLED WATER CHANNEL [PRICES BASED ON LINEAL FEET OF CRACK REPAIR]

- A. Measurement for payment of injection grouting of settled water channel will be based upon the lineal feet of crack repair required based upon the inspection of the dewatered settled water channel. As the channel is in operation and can only be taken offline for a period of 24 hours, the overall lineal footage has not been estimated and therefore an estimate has been provided for this bid item.
- B. Payment for this bid item will be made at the unit price per lineal foot named in the Bid Schedule under Item 11 which price shall include full compensation for providing all labor materials, tools, equipment, and incidentals, and for doing all work involved in preparing of surfaces including dewatering of channel for temporary work access, crack routing, setting of injection ports, grouting and cleanup as directed by the manufacturer in order to meet the requirements shown on the Drawings or as specified in the Specification.

1.14 WPCP DEVELOPMENT [LUMP SUM]

- A. No measurement shall be made for this Item. Payment is made for the preparation and development of the WPCP required under this contract shall be made as the lump sum price named in the Bid Schedule under Item 12 and shall be and in accordance with the City of San Diego "Whitebook", City supplement to the Standard Specifications for Public Works Construction, 2018 Edition, Section 1001-4. Payment for this item shall include the preparation of the 100 percent

WPCP based on the draft WPCP and shall include all necessary additional BMP's as required for compliance with the permitting agency.

1.15 WPCP IMPLEMENTATION [LUMP SUM]

- A. No measurement shall be made for this Item.
- B. Payment is made for the development of the WPCP required under this contract shall be made as the lump sum price named in the Bid Schedule under Item 13 and shall be and in accordance with the City of San Diego "Whitebook", City supplement to the Standard Specifications for Public Works Construction, 2018 Edition, Section 1001-4. Payment for this item shall include the implementation of the 100 percent WPCP based on the draft WPCP and shall include all necessary additional BMP's as required for compliance with the permitting agency. Payment shall include implementation, monitoring, upkeep and removal of all necessary BMP's as required in the approved WPCP.

1.16 DIFFUSER BAFFLE REPLACEMENT [LUMP SUM]

- A. No measurement is made for Diffuser Baffle Replacement.
- B. Payment for this bid item will be made as a Lump Sum for replacement of the primary and secondary diffuser baffles in Basin No. 1 named in the Bid Schedule under Item 14 which price shall include full compensation for providing all labor materials, tools, equipment, and incidentals, and for doing all work involved in providing securely fastened and operational diffuser baffles.

1.17 THIRD PARTY INSPECTION [ALLOWANCE]

- A. No measurement shall be made for this item.
- B. Payment is made for this item as an allowance towards independent third-party inspection that may occur during the course of the Work. Payment for this item shall be made as an allowance price named in the Bid Schedule under Item 15.

1.18 FIELD ORDERS [ALLOWANCE]

- A. No measurement shall be made for this item.
- B. Payment is made for this item as an allowance towards field orders and contingencies that may occur during the course of the Work. Payment for this item shall be made as an allowance price named in the Bid Schedule under Item 16 and in accordance with the City of San Diego "Whitebook", City supplement to the Standard Specifications for Public Works Construction, 2018 Edition, Section 7-3.9.

1.19 RETENTION

- A. The Owner shall retain a percentage of each progress payment in accordance with Section 7-3.2 Partial and Final Payment of Part 1 General Provisions - General of the Contract Documents. The retained amount is available for the protection and payment of the person(s), mechanics, subcontractors, or material men who perform labor upon the Contract or Work thereunder, and the persons who supply

such person(s), or subcontractors with components and supplies for carrying on such Work.

- B. Pursuant to Section 22300 of the Public Contract Code of the State of California, the CONTRACTOR has the option, at its expense, to deposit securities with an Escrow Agent as a substitute for retention earnings required to be withheld by the City. Securities eligible for such substitution are bank or savings and loans certificates of deposit or such securities which are eligible for investment pursuant to Government Code Section 16430. As to any such security or securities so substituted for monies withheld, the CONTRACTOR shall be the beneficial owner of same and shall receive any interest thereon. Such security shall, at the request and expense of the CONTRACTOR, be deposited with the City or with a State or Federally Chartered bank as the escrow agent who shall pay such monies to the CONTRACTOR upon notification by the City that payment can be made. Such notification will be given at the expiration of thirty-five (35) days from the date of acceptance of the work, or as prescribed by law, provided however, that there will be a continued retention of the necessary securities to cover such amounts as are required by law to be withheld by properly executed and filed notices to stop payment, or as may be authorized by the contract to be further retained.

1.20 PHASE FUNDING

- A. The Contract conditions and requirements for Phase Funding are contained in Section 6-1.4, Phased Funding, and Section 7-3.10, the City of San Diego "Whitebook", City supplement to the Standard Specifications for Public Works Construction, 2018 Edition.

PART 2 - EXECUTION (NOT USED)

**** END OF SECTION ****

SECTION 01 25 00

SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.01 SCOPE

- A. CONTRACTOR requests for review of a substitution shall conform to the requirements of the Contract Documents and shall contain complete data substantiating compliance of proposed substitution with the Contract Documents.
- B. The CONTRACTOR shall conform to the CONTRACTOR's options regarding selection of manufacturers, fabricators, suppliers, or distributors of products, materials, or equipment as defined in Section 01 33 00, Submittal Procedures, Paragraph 1.3, CONTRACTOR's OPTIONS.
- C. For those CONTRACTOR's options requiring a Substitution Request, the CONTRACTOR shall submit a written Substitution Request per Part 1, Section 4-6 of the 2018 "Whitebook," and as defined below.

1.02 RELATED SECTIONS

- A. The Work of the following Sections apply to Work of this Section. Work of other Sections of the Specifications, not referenced below, shall also apply to the extent required for proper performance of the Work.
 - 1. Section 01 33 00 Submittal Procedures
 - 2. Section 01 45 00 Quality Control
 - 3. Section 11 01 00 Operation and Maintenance of Equipment

1.03 SUBSTITUTIONS

- A. Submit five (5) copies of the request for substitution. Submit a separate request for each substitution. In addition to requirements set forth in the Contract Documents, include in request the following:
 - 1. For products or manufacturers:
 - a. Manufacturer's information, including manufacturer's name and address, contact person name and telephone number, and company data - history, facilities, distribution facilities, technical support, sales offices, and similar information.
 - b. Manufacturer's product literature with product description, performance and test data, and reference standards.
 - c. Samples, if appropriate.
 - d. Priced list of product spare parts.
 - e. Name and address of the nearest service and technical support facility, including a current contact name and telephone number.

- f. Reference list of current owner names and addresses, including current contact names and telephone numbers, of a minimum of five (5) similar projects in an immersed potable water application in which manufacturer or product was used within the last five years. Include the dates of construction.
2. For construction methods (if specified):
 - a. Detailed description of proposed construction method.
 - b. Drawings illustrating construction method.
3. Such other data that the OWNER and CONSTRUCTION MANAGER may request to establish that the proposed substitution is equal to the specified manufacturer, product, or construction method. Failure to provide such additional data, or failure to provide requested data in a timely manner are grounds for rejection of the Substitution Request.
4. The CONTRACTOR shall be responsible for the entire burden of demonstrating that the proposed substitution is equal to the specified manufacturer, product or construction method.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

**** END OF SECTION ****

SECTION 01 31 13

PROJECT COORDINATION

PART 1 - GENERAL

1.01 SCOPE

- A. The CONTRACTOR shall coordinate work under the Contract and work by others on the Project including, but not limited to, the following:
1. General construction coordination and administration procedures.
 2. Work required by City Forces.
 3. Work required by City Contractor's
 4. Work required by Utility Companies and Utility Company Contractors.
 5. Scheduled Shutdowns
 6. Section 01 12 16, Work Sequence
- B. The CONTRACTOR shall take precautions necessary to assure that no damage or unscheduled shutdowns occur to any facilities, including piping, utilities, traffic signals, roads, and structures, that are to remain in operation and are not to be modified or replaced. It is the CONTRACTOR'S responsibility to contact Underground Service Alert, (800-422-4133), prior to any excavation for verification and location of utilities and notification of commencement of work. Any temporary facilities, materials, equipment and labor required to achieve this objective shall be provided by the CONTRACTOR at his own expense. At the completion of work, all such temporary facilities, materials, and equipment remaining shall be removed from the site.
- C. Regarding connection to existing buried piping and facilities at or adjacent to the site, it shall be the responsibility of the CONTRACTOR to uncover and verify their locations, elevations, materials, and dimensions prior to beginning construction or fabrication of any new materials or facilities which are dependent on the location of existing facilities.

1.02 RELATED SECTIONS

- A. The Work of the following Section[s] applies to the Work of this Section. Work of other Sections of the Specification, not referenced below, shall also apply to the extent required for proper performance of this Work.
1. Section 01 11 00 Summary of Work.
 2. Section 01 12 16 Work Sequence
 3. Section 01 31 19 Project Meetings
 4. Section 01 33 00 Submittal Procedures
 5. Section 01 50 00 Temporary Utilities and Construction Facilities

1.03 GENERAL COORDINATION

- A. Coordinate construction operations to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in the sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to assure maximum accessibility for required maintenance, service, and repair.
 - 3. Make provisions to accommodate items scheduled for later installation.
- B. The work shall be carried on at such places on the project and also in such order or precedence as may be found necessary by the CONSTRUCTION MANAGER to expedite the completion of the project. After work has begun on any part of the project, it shall be carried forward to its final completion, unless otherwise determined by the CONSTRUCTION MANAGER.
- C. Where necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
 - 1. Prepare similar memoranda for the CONSTRUCTION MANAGER and OWNER and other Contractor's where coordination of their work is required.
- D. Staff Names: Within 15 working days of Notice to Proceed, submit a list of the CONTRACTOR'S principal staff assignments, including the superintendent and other personnel in attendance at the Project Site. Identify individuals and their duties and responsibilities. List their addresses and telephone numbers.
 - 1. Post copies of the list in the Project meeting room, the temporary field offices, and each temporary telephone.
- E. The CONTRACTOR shall include time-lines in its Pre-award and monthly construction schedules for water system shutdowns and work by City Forces on the project per City of San Diego "Whitebook", City supplement to the Standard Specifications for Public Works Construction, 2018 Edition, Section 6-1.1.

1.04 WATER SYSTEM SHUTDOWNS

- A. Any proposed shutdowns must be indicated on the CONTRACTOR'S Pre-award and Baseline Construction Schedules to be submitted for review by the CONSTRUCTION MANAGER per City of San Diego "Whitebook", City supplement to the Standard Specifications for Public Works Construction, 2018 Edition, Section 6-1.1. All shutdowns shall require an approved Shutdown Request Form with all backup documentation in accordance with Section 01 12 16, Work Sequence.
- B. The CONTRACTOR shall compile a detailed list of all items of work which must be accomplished during any shutdown. The CONTRACTOR shall coordinate his work

to minimize the required number of shutdowns by accomplishing as many tasks as possible during each shutdown period. The CONTRACTOR shall submit this list of items to the CONSTRUCTION MANAGER for his review as a part of the construction schedule defined in City of San Diego "Whitebook", City supplement to the Standard Specifications for Public Works Construction, 2018 Edition, Section 6-1.1. The schedule shall indicate all periods and duration of each proposed shutdown and the items of work which will be accomplished. The written request shall include a complete detailed plan of the CONTRACTOR'S proposed activities. Work in the Settled Water Channel shall require a partial shutdown, the timing and duration of which shall be coordinated with the Otay Water Treatment Plant staff using the Shutdown request Form found in Section 01 12 16, Work Sequence. Subject to regional system conditions, the City reserves the right to select the hours of the day, the day of the week, and the time of year on which it will make the shutdown(s). The Contractor shall familiarize themselves with the regional and seasonal constraints which the City is committed to in providing uninterrupted water service to City customers. Timing of shutdowns must consider the necessity that Contractor activities cannot disrupt or interrupt the delivery of water to customers.

1.05 SUBMITTALS

- A. Coordination Drawings: Prepare coordination drawings where careful coordination is needed for installation of products and materials fabricated by separate entities. Prepare coordination drawings where limited space availability necessitates maximum utilization of space for efficient installation of different components.
 - 1. Show the relationship of components shown on separate Shop Drawings and staging requirements for component installation.
 - 2. Indicate required installation sequences.
 - 3. Comply with requirements contained in Section 01 33 00, Submittal Procedures.

1.06 UTILITY COORDINATION

- A. Existing Facilities
 - 1. The CONTRACTOR shall maintain required clearances from Utility Company facilities during the course of the Work.
 - 2. Support or relocation of existing Utility Company facilities to accommodate CONTRACTOR'S means and methods of conducting the Work shall be coordinated directly with the Utility Company at no additional cost to the OWNER.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

3.01 GENERAL COORDINATION PROVISIONS

- A. Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.

**** END OF SECTION ****

SECTION 01 31 19
PROJECT MEETINGS

PART 1 - GENERAL

1.01 SCOPE

- A. The CONTRACTOR shall participate in project meetings including, but not limited to, the following:
1. Preconstruction conferences.
 2. Progress meetings.
 3. Preinstallation conferences.
 4. Coordination meetings.

1.02 RELATED SECTIONS

- A. The Work of the following Sections apply to the Work of this Section. Work of other Sections of the Specifications not referenced below shall also apply to the extent required for proper performance of the Work.
1. Section 01 31 13 Project Coordination
 2. Section 01 12 16 Work Sequence
 3. Section 3-6.1, Project Meetings, Part 1- City of San Diego "Whitebook," City Supplement to the Standard Specifications for Public Works Construction, 2018 Edition.

1.03 PRECONSTRUCTION CONFERENCE

- A. Prior to the commencement of the Work at the site, a preconstruction conference will be held at a mutually agreed time and place which shall be attended by the CONTRACTOR'S Project Manager, its superintendent, and its subcontractors, as the CONTRACTOR deems appropriate. Other attendees will be:
1. CONSTRUCTION MANAGER.
 2. OWNER'S Representatives.
 3. Governmental representatives as appropriate.
 4. Others as requested by CONTRACTOR, OWNER, or CONSTRUCTION MANAGER.
- B. Unless previously submitted to the CONSTRUCTION MANAGER, the CONTRACTOR shall bring to the conference one copy each of the following:
1. Pre-Award Cost Loaded Construction Schedule per City of San Diego "Whitebook", City supplement to the Standard Specifications for Public Works Construction, 2018 Edition, Section 6-1.1.
 2. Procurement schedule of major equipment and materials, and items requiring long lead time.

3. Shop Drawing/Sample/Substitute or "Or Equal" submittal schedule.
- C. The purpose of the Pre-Construction Conference is to designate responsible personnel and establish a working relationship. Matters requiring coordination will be discussed and procedures for handling such matters established. The complete agenda will be furnished by the CONSTRUCTION MANAGER to the CONTRACTOR prior to the meeting date. However, the CONTRACTOR should be prepared to discuss all of the items listed below.
1. Status of CONTRACTOR's insurance and bonds.
 2. CONTRACTOR's tentative schedules.
 3. Transmittal, review, and distribution of CONTRACTOR's submittals.
 4. Processing applications for payment.
 5. Maintaining record documents.
 6. Critical work sequencing.
 7. Field decisions and Change Orders.
 8. Use of project site, office and storage areas, security, housekeeping, and OWNER's needs.
 9. Major equipment deliveries and priorities.
 10. CONTRACTOR's assignments for safety and first aid.
- D. The CONSTRUCTION MANAGER will preside at the preconstruction conference and will arrange for keeping and distributing the minutes to all persons in attendance.

1.04 PROGRESS MEETINGS

- A. The CONSTRUCTION MANAGER will schedule and hold regular on-site progress meetings at least weekly and at other times as required by progress of the Work. The CONTRACTOR, CONSTRUCTION MANAGER, and all subcontractors active on the site shall attend each progress meeting. The CONSTRUCTION MANAGER may, at its discretion, request attendance by representatives of the CONTRACTOR's suppliers, manufacturers, and other subcontractors.
- B. The CONSTRUCTION MANAGER shall preside at the meetings and will arrange for keeping and distributing the minutes. The purpose of the meetings will be to review the progress of the WORK, maintain coordination of efforts, discuss changes in scheduling, and resolve other problems which may develop. During each meeting, the CONTRACTOR is required to present any issues which may impact his work, with a plan to resolve these issues expeditiously.
- C. The CONSTRUCTION MANAGER will invite the Design Consultant, CIP Project Manager, CIP Safety Manager, and the CIP Public Information Officer, to send representatives to the weekly progress meetings. From time to time, the CONSTRUCTION MANAGER may invite others to attend as well, including the CIP Owner Controlled Insurance Program manager, specialty design subconsultants, utility companies, and community groups.
- D. The agenda will include but will not be limited to the following:

1. Transcript or minutes of previous meeting.
2. Safety and Traffic Control Issues.
3. Community and public relations issues.
4. Progress since the last meeting.
5. The CONTRACTOR's three-week look-ahead schedule and planned Work progress for the next Work period.
6. Shop Drawings, Requests for Information, and Substitution Requests review.
7. Problems, conflicts, disputed issues, potential claims, and observations.
8. Field Orders and Change Orders.
9. Applications for payment.
10. Quality standards and control.
11. Schedules, including off-site fabrication and delivery schedules. Corrective measures required.
12. Coordination between parties.
13. Other issues and business as required.

1.05 PRE-INSTALLATION CONFERENCES

- A. Conduct a pre-installation conference at the Project Site before each construction activity that requires coordination with other construction.
- B. Attendees: The Installer and representatives of manufacturers and fabricators involved in, or affected by the installation, and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise the CONSTRUCTION MANAGER of scheduled meeting dates.
 1. Review the progress of other construction activities and preparations for the particular activity under consideration at each pre-installation conference, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related Change Orders.
 - d. Purchases.
 - e. Deliveries.
 - f. Shop Drawings, Product Data, and quality control samples.
 - g. Review of mockups.
 - h. Possible conflicts.
 - i. Compatibility problems.
 - j. Time schedules.
 - k. Weather limitations.
 - l. Manufacturer's recommendations.

- m. Warranty requirements.
 - n. Compatibility of materials.
 - o. Acceptability of substrates.
 - p. Temporary facilities.
 - q. Space and access limitations.
 - r. Governing regulations.
 - s. Safety.
 - t. Inspecting and testing requirements.
 - u. Required performance results.
 - v. Recording requirements.
 - w. Protection.
- 2. Record significant discussions and agreements and disagreements of each conference, and the approved schedule. Promptly distribute the record of the meeting to everyone concerned, including the OWNER and the CONSTRUCTION MANAGER.
 - 3. Do not proceed with the installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at the earliest feasible date.

1.06 COORDINATION MEETINGS

- A. Coordination of water system shutdowns requires the CONTRACTOR to attend meetings with the Water Department Operations Division in order to plan and schedule system adjustments and shutdowns. The CONTRACTOR shall participate in coordination meetings, as requested by the CONSTRUCTION MANAGER. CONTRACTOR shall be prepared to present the detailed work plan for connection work, in accordance with Section 01 31 13 Project Coordination.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

**** END OF SECTION ****

SECTION 01 32 33

PHOTOGRAPHIC AND VIDEO DOCUMENTATION

PART 1 - GENERAL

1.01 SCOPE

- A. The CONTRACTOR shall video tape pre-construction site conditions, take preconstruction photographs, and take construction photographs, as specified.
- B. The CONTRACTOR shall obtain the CONSTRUCTION MANAGER's approval prior to taking the first series of photographs or video tapes of each specified type.

1.02 RELATED SECTIONS

- A. The Work of the following Section apply to Work of this Section. Work of other Sections of the Specifications, not referenced below, shall also apply to the extent required for proper performance of the Work.
 - 1. Section 01 33 00 Submittal Procedures
 - 2.

1.03 SUBMITTALS

- A. Submit video and photographs as specified and according to Section 01 33 00-Submittal Procedures.

PART 2 - PRODUCTS

2.01 VIDEO TAPING EQUIPMENT

- A. The CONTRACTOR's video capability, equipment, and operators shall conform to the following minimum criteria:
 - 1. High resolution and clarity shall be provided through the use of a flash drive/USB.
 - 2. Videos and photographs shall be automatically dated and timed.

2.02 PRECONSTRUCTION PHOTOGRAPHIC EQUIPMENT

- A. The CONTRACTOR's photographic capability, equipment, and operators shall conform to the following minimum criteria:
 - 1. The camera shall be digital and capable of taking photographs with a minimum of 8 mega-pixels and photos saved to a flash drive/USB.
 - 2. The camera shall be capable of imprinting an inalterable date on the video/photographs.

2.03 DIGITAL PHOTO EQUIPMENT

- A. The CONTRACTOR shall provide a new digital camera of at least 8.0 effective megapixel resolution for this Project. The camera shall be manufactured by a reputable firm of common name (Sony, Olympus, Canon, Minolta, Ricoh, Kodak, or equal).
- B. The camera shall utilize a universal platform memory card, flash drive, or USB for storing digital photographs.
- C. The camera shall utilize an automatic focus, f-stop, and built-in flash system with manual override to promote quality photography.
- D. The CONTRACTOR shall provide a minimum of two flash drives, each having a minimum capacity of 2 gigabytes (Gb).
- E. The digital camera and two flash drives/USB in good working condition, accounting for reasonable wear and tear, shall be transferred to the City at the last Project progress meeting or at the time of Substantial Completion, whichever comes last.
 - 1. If the digital camera or any flash drives/ USB are destroyed or damaged beyond use during the course of the Project, they shall be replaced by the CONTRACTOR at no additional cost to the OWNER.

PART 3 - EXECUTION

3.01 VIDEO TAPING OF PRE-CONSTRUCTION CONDITIONS

- A. The CONTRACTOR shall video tape all Project existing surface conditions prior to the start of any construction activities. Important Project aspects that shall be videotaped include but are not limited to:
 - 1. Exterior of Basin/settled water channel.
 - 2. Basin walkways, upper deck.
 - 3. Interior of all Basin/ settled water channel surfaces.
 - 4. Mechanical components, energy dissipater, valves, etc.
 - 5. Sweep guides.
 - 6. Foreign objects.
 - 7. Exposed rebar.
 - 8. Cracks, expansion joints and construction joints.
 - 9. Safety conditions.
 - 10. Other unusual conditions or equipment/facility installations.
- B. All videotaping of pre-existing surface conditions shall be performed in the presence of the CONSTRUCTION MANAGER.
- C. The CONTRACTOR shall make all arrangements for videotaping, including coordination with the CONSTRUCTION MANAGER.

- D. The CONTRACTOR shall transmit all original video to the CONSTRUCTION MANAGER immediately after taping. Video footage shall be submitted to the CONSTRUCTION MANAGER no later than thirty (30) days after issuance of Notice to Proceed, and no construction Work shall commence prior to the CONSTRUCTION MANAGER's acceptance of the video footage.
- E. The CONTRACTOR shall not be entitled to any additional Working days due to videotaping activities, including securing videotaping services, taping and editing activities, or submitting video/photographs to and obtaining acceptance from the CONSTRUCTION MANAGER.

3.02 PRECONSTRUCTION PHOTOGRAPHS

A. General

1. The CONTRACTOR shall take a sufficient number (200 photographs minimum; complex projects may require additional photographs) of preconstruction photographs necessary to resolve any disputes that may arise regarding the considerations prior to and subsequent to construction. Photographs of the same general types of Project aspects as described under Video Taping of Pre-Construction Conditions shall be taken. All photographs shall be imprinted with an unalterable date designation.
 2. If a dispute arises where no preconstruction photographs were taken, the disputed area shall be restored to the extent directed by the CONSTRUCTION MANAGER and to the satisfaction of the CONSTRUCTION MANAGER.
 3. The CONTRACTOR shall furnish one set of color prints of the preconstruction photographs to the CONSTRUCTION MANAGER, and shall make other photographs available for review in settling any disputes that may arise.
 4. The CONSTRUCTION MANAGER may, at his option, take additional preconstruction photographs that may be used to settle disputes, but will not be required to make these photographs available to the CONTRACTOR.
- B. All photographs of pre-construction surface conditions shall be performed in the presence of the CONSTRUCTION MANAGER.
 - C. The CONTRACTOR shall make all arrangements for preconstruction photographs including coordination with the CONSTRUCTION MANAGER.
 - D. The CONTRACTOR shall transmit all prints of preconstruction photographs to the CONSTRUCTION MANAGER immediately after photographing. Preconstruction photographs shall be submitted to the CONSTRUCTION MANAGER no later than thirty (30) days after issuance of Notice to Proceed, and no construction Work shall commence prior to the CONSTRUCTION MANAGER's acceptance of the preconstruction photographs.
 - E. The CONTRACTOR shall not be entitled to any additional Working days due to preconstruction photographing activities, including securing photographic services, photographic printing services, or submitting preconstruction photographs to and obtaining acceptance from the CONSTRUCTION MANAGER.

3.03 DIGITAL CONSTRUCTION PHOTOGRAPHS

- A. The CONTRACTOR shall provide continuing digital photographs illustrating all aspects of Project progress throughout the Project duration.
- B. The CONTRACTOR shall take photographs at the camera's maximum resolution in sufficient quantity to fill the flash drive/USB prior to each Project progress meeting.
- C. The CONSTRUCTION MANAGER shall approve the views to be taken and the time which they are to be taken.
- D. The CONTRACTOR shall record the following information for each photograph taken:
 - 1. Project title.
 - 2. Date taken.
 - 3. Photograph number.
 - 4. Description of view shown in photograph.
 - 5. Names of any persons in the view.
 - 6. Photographer's name and current contact information.
- E. The CONTRACTOR shall submit the flash drive/USB of the pictures taken during the previous progress period to the CONSTRUCTION MANAGER at the regularly scheduled Project progress meetings. The CONSTRUCTION MANAGER will return the previously submitted flash drive/USB to the CONTRACTOR during the Project progress meeting.
 - 1. If more than two flash drive/USB are required to make the specified exchange, or if any storage devices are damaged during the exchange process, the CONTRACTOR shall provide the flash drives/USB at no additional cost to the OWNER.

**** END OF SECTION ****

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 SCOPE

- A. Wherever submittals are required hereunder, all such submittals by the CONTRACTOR shall be submitted to the CONSTRUCTION MANAGER.
- B. Within 5 working days after the date of commencement as stated in the Notice to Proceed, the CONTRACTOR shall submit the following items to the CONSTRUCTION MANAGER for review:
 - 1. A Submittal Schedule of Shop Drawings, Samples, and proposed Substitutes ("Or Equal") submittals. Additional submittals will not be accepted for review prior to acceptance of the Submittal Schedule by the CONSTRUCTION MANAGER.
 - 2. A list of all permits and licenses the CONTRACTOR shall obtain. Indicate the agency required to grant the permit, the expected date of submittal for the permit, and the required date for receipt of the permit.

1.02 RELATED SECTIONS

- A. The Work of the following Section apply to Work of this Section. The Work of other Sections of the Specifications, not referenced below, shall also apply to the extent required for proper performance of the Work.
 - 1. Section 01 31 13 Project Coordination
 - 2. Section 01 41 00 Permits and Regulatory Requirements
 - 3. Section 01 12 16 Work Sequence
 - 4. Section 01 31 19 Project Meetings
 - 5. Section 01 32 33 Photographic and Video Documentation
 - 6. Section 01 45 00 Quality Control
 - 7. Section 01 35 43 Environmental Procedures
 - 8. Section 11 01 00 Operation and Maintenance of Equipment
 - 9. Section 01 25 00 Substitution Procedures

1.03 CONTRACTOR'S OPTIONS

- A. For those products, materials, or equipment (hereinafter products) addressed by the current edition of the City of San Diego Water Approved Materials List (hereinafter AML), the manufacturer, fabricator, supplier, or distributor (hereinafter manufacturer) of the products and the product shall conform to those named in the AML. This requirement applies to all CONTRACTOR'S options.

- B. For products specified only by reference standard, select products by any manufacturer meeting that standard. To the maximum extent possible, provide products of the same generic kind from a single source.
- C. For products specified by naming several products or manufacturers, select any one of the products or manufacturers named that complies with the Contract Documents.
- D. For products specified by naming one or more products or manufacturers and stating "or equal," submit a Request for Substitution, as defined in Section 01 25 00, Substitution Procedures, to the CONSTRUCTION MANAGER for any product or manufacturer that is not specifically named.
- 1. Note that a limited time period is specified for the CONTRACTOR to submit Requests for Substitution. After that period has elapsed, the CONSTRUCTION MANAGER will no longer accept Requests for Substitution for review.
- E. Where more than one choice is available as a CONTRACTOR'S option, select a product that is compatible with other products already selected or specified.

1.04 SHOP DRAWINGS

- A. Submit Shop Drawings to CONSTRUCTION MANAGER for review and acceptance in accordance with the accepted schedule of Shop Drawings and Sample submittals.
- B. Determine and verify before submitting each Shop Drawing or Sample:
 - 1. Field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto.
 - 2. Materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work.
 - 3. Information relative to CONTRACTOR'S sole responsibilities in respect of means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
- C. CONTRACTOR shall review and coordinate each Shop Drawing or Sample with other Shop Drawings and Samples, and with the requirements of the Work and Contract Documents.
- D. All CONTRACTOR shop drawing submittals shall be carefully reviewed by an authorized representative of the CONTRACTOR, prior to submission to the CONSTRUCTION MANAGER. Each submittal shall be dated, signed, and certified by the CONTRACTOR, as being correct and in strict conformance with the Contract Documents. In the case of shop drawings, each sheet shall be so dated, signed, and certified. No consideration for review by the CONSTRUCTION MANAGER of any CONTRACTOR submittals will be made for any items which have not been so certified by the CONTRACTOR. All non-certified submittals will be returned to the CONTRACTOR without action taken by the CONSTRUCTION MANAGER, and any delays caused thereby shall be the sole responsibility of the CONTRACTOR.

- E. At the time of each submission, CONTRACTOR shall give CONSTRUCTION MANAGER specific written notice of variations, if any, that the Shop Drawing or Sample submitted may have from the requirements of the Contract documents. The notice shall be by written communication separate from the submittal; and, in addition, shall cause a specific notation to be made on each Shop Drawing and Sample submitted to CONSTRUCTION MANAGER for review and acceptance of each such variation.
- F. Review and acceptance of Shop Drawings and Samples will be only to determine if items covered by submittals will, after installation or incorporation in the Work, conform to information given in the Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Review and acceptance will not extend to means, methods, techniques, sequences, or procedures of construction, except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents. The review and acceptance of a separate item as such will not indicate acceptance of the assembly in which the item functions. The review of CONTRACTOR shop drawing submittals shall not relieve the CONTRACTOR of the entire responsibility for the correctness of details and dimensions. The CONTRACTOR shall assume all responsibility and risk for any misfits due to any errors in CONTRACTOR submittals. The CONTRACTOR shall be responsible for the dimensions and the design of adequate connections and details. CONTRACTOR shall make corrections required to submittals and shall return the required number of corrected copies of Shop Drawings and submit as required new Samples for review and acceptance. Contractor shall direct specific attention in writing to revisions other than corrections called for on previous submittals.
- G. Review and acceptance of Shop Drawings or Samples shall not relieve CONTRACTOR from responsibility for variation from requirements of the Contract Documents, unless CONTRACTOR has in writing called attention to each such variation at the time of submission, and written acceptance has been given of each such variation by specific written notation thereof incorporated in, or accompanying, the Shop Drawing or Sample acceptance.
- H. Where a Shop Drawing or Sample is required by Contract Documents or schedule of Shop Drawings and Sample submissions accepted by CONSTRUCTION MANAGER, related Work performed prior to review and approval of pertinent submittal will be at the sole expense and responsibility of CONTRACTOR.

1.05 SUBMITTAL PROCEDURES

- A. Wherever called for in the Contract documents, or where required by the CONSTRUCTION MANAGER, the CONTRACTOR shall furnish to the CONSTRUCTION MANAGER for review, 10 copies, plus the number the CONTRACTOR wants returned, not to exceed 12 copies, plus one reproducible copy, of each shop drawing submittal. The term "Shop Drawings" as used herein shall be understood to include detail design calculations, shop drawings, fabrication, and installation drawings, erection drawings, lists, graphs, catalog sheets, data sheets, and similar items.
- B. Normally, a separate transmittal form shall be used for each specific item or class of material or equipment for which a submittal is required. Transmittal of a

submittal of various items using a single transmittal form will be permitted only when the items taken together constitute a manufacturers "package" or are so functionally related that expediency indicates review of the group or package as a whole. A multiple-page submittal shall be collated into sets, and each set shall be stapled or bound, as appropriate, prior to transmittal to the CONSTRUCTION MANAGER.

- C. A standard transmittal form approved by the CONSTRUCTION MANAGER shall be used for the project. Transmittal form shall identify CONTRACTOR, indicate date of submittal, and include information prescribed by the transmitted form and assign a sequential number to each submittal in a format approved by the CONSTRUCTION MANAGER. Process transmittal forms to record actions regarding sample panels and sample installations.
- D. In order to indicate that the submittals have been Reviewed and Approved by CONTRACTOR as to conformance to Contract Documents, CONTRACTOR shall have made and shall use labels and/or a rubber stamp which shall materially conform to the following sample:

Submittal No.:	
Contract No.:	Project No.:
Contractor:	
REVIEWED AND APPROVED for Conformance with the Contract Documents By:	(Signature)
References:	
Drawing Sheet No's.:	
Specification Section No's.:	

- E. Except as may otherwise be indicated herein, the CONSTRUCTION MANAGER will return prints of each submittal to the CONTRACTOR with its comments noted thereon, within 30 calendar days following their receipt by the CONSTRUCTION MANAGER. It is considered reasonable that the CONTRACTOR shall make a complete and acceptable submittal to the CONSTRUCTION MANAGER by the second submission of a submittal item. The OWNER reserves the right to withhold monies due the CONTRACTOR to cover additional costs of the review beyond the second submittal. The maximum review period for each submittal, including all resubmittals, will be 30 days per submittal. For a submittal that requires two resubmittals before it is complete, the maximum review period for that submittal could be 90 days.
- F. If 3 copies of a submittal are returned to the CONTRACTOR marked "NO EXCEPTIONS TAKEN, formal revision and resubmission of said submittal will not be required.
- G. If 3 copies of a submittal are returned to the CONTRACTOR marked "MAKE CORRECTIONS NOTED," formal revision and resubmission of said submittal will be required when requested for confirmation.

- H. If a submittal is returned to the CONTRACTOR marked "REVISE-RESUBMIT," the CONTRACTOR shall revise said submittal and shall resubmit the required number of copies of said revised submittal to the CONSTRUCTION MANAGER.
- I. If a submittal is returned to the CONTRACTOR marked "REJECTED-RESUBMIT," the CONTRACTOR shall revise said submittal and shall resubmit the required number of copies of said revised submittal to the CONSTRUCTION MANAGER.
- J. Fabrication of an item shall be commenced only after the CONSTRUCTION MANAGER has reviewed the pertinent submittals and returned copies to the CONTRACTOR marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED." Corrections noted on submittals shall be considered as changes necessary to meet the requirements of the Contract Documents and shall not be taken as the basis for changes to the contract requirements.
- K. Submittal log
 - 1. CONTRACTOR shall maintain an accurate submittal log which lists all the submittals required by this Contract, showing current status of each submittal.
 - 2. Make the submittal log available for review upon request.

1.06 SUBMITTAL FORMAT AND COPIES

- A. Format for Shop Drawings:
 - 1. For shop drawings presented on sheets larger than 8 ½-inches by 17 inches, include on each drawing the drawing title, number, date, and revision numbers and dates.
 - 2. For shop drawings presented on sheets 8 ½-inches by 17 inches or less, conform to the format and quantity requirements for product data, and present as a part of the bound volume for the submittals required by the Section.
 - 3. Dimension drawings, except diagrams and schematic drawings; prepare dimensioned drawings to scale. Identify materials and products for work shown.
 - 4. Shop drawings shall be not less than 8 ½ by 11 inches nor more than 30 by 42 inches.
 - 5. Submit detailed drawings and descriptions of proposed deviations from details or component arrangement indicated on the drawings.
 - 6. Provide finished drawings for approval indicating proposed installation of the Work, and materials and equipment being furnished.
 - 7. Copies of plans will not be accepted for submission as drawings, nor will catalog numbers alone of materials or equipment.
 - 8. Data shown on working drawings shall be complete with respect to dimensions, design criteria, material of construction, and other detail to enable review.

B. Format for Product Data:

1. Present product data submittals for each Section of the Specifications as a complete, bound volume. Include a table of contents listing page and catalog item numbers for product data.
2. Indicate, by prominent notation, each product which is being submitted; indicate the Section and paragraph numbers to which it pertains.
3. Supplement product data with material prepared for the project to satisfy submittal requirements for which product data does not exist. Note that the material is developed specifically for the project.
4. Catalog data shall be explicit with regard to details of products being furnished and complete enough to enable Design Consultant to determine that products submitted conform to requirements of specifications.
5. For submittals with more than one style, size, capacity, etc. of a product on a sheet, clearly indicate exactly which product type is being submitted for approval. Failure to do this is cause for rejection.
6. Catalog data shall bear name of manufacturer of product.

C. Samples

1. Label or tag each sample identifying the specification Section number, manufacturer's name and address, brand name, product identification number, and intended use in the Work.

D. Format of Administrative and Closeout Submittals

1. Submit administrative and closeout submittals in the format and quantities required for shop drawings.
2. If the submittal includes a document which is to be used in the project or become a part of the project record, other than as a submittal, do not apply the CONTRACTOR'S approval stamp to the document, but to a separate sheet accompanying the document.
3. Record documents shall be submitted in conformance with City of San Diego "Whitebook", City supplement to the Standard Specifications for Public Works Construction, 2018 Edition, Section 3-7.3.

E. Unless otherwise directed in writing, CONTRACTOR shall submit the following number of copies of each submittal:

1. Product Data, Shop Drawings, and Working Drawings: 10 copies for the following distribution:
 - a. Design Consultant's review: 3 copies. 4copies for the CONSTRUCTION MANAGER.
 - b. OWNER's records: 1 copy.
 - c. Returned to CONTRACTOR: 3 copies.
 - (1) 1 copy for Record Documents file.
 - (2) 1 copy for CONTRACTOR's records.
 - (3) 1 copy for circulation to subcontractors and suppliers.

2. Samples: Provide two sets of required samples. One sample will be returned after review with notations resulting from review.
 - a. Operation and Maintenance information: As specified in Section 11 01 00- Operation and Maintenance of Equipment.
 - b. Training Manuals: Provide in number and for distribution as for Operations and Maintenance Information in Section 11 01 00- Operation and Maintenance of Equipment.

1.07 PRE-CONSTRUCTION AND CONSTRUCTION PROGRESS SCHEDULES

- A. Provide as required by City of San Diego "Whitebook", City supplement to the Standard Specifications for Public Works Construction, 2018 Edition, Section 6-1.1.
- B. Identify conflicts between manufacturers' instructions and Contract Documents.
- C. Resolve conflicts as directed by CONSTRUCTION MANAGER at no additional cost to OWNER.

1.08 MANUFACTURER'S INSTRUCTIONS

- A. Submit manufacturers' printed instructions for delivery, storage, assembly, installation, start up, adjusting, and finishing, in quantities specified for shop drawings when specified in individual Sections

1.09 MANUFACTURER'S CERTIFICATES

- A. When specified in individual Sections, submit manufacturers' certificate(s) to CONSTRUCTION MANAGER for review, in quantities specified for shop drawings.
- B. Indicate material and equipment conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or product, but must be acceptable to CONSTRUCTION MANAGER.
- D. Where specified in Contract Documents that a certificate and/or affidavit shall be submitted to OWNER for approval of a particular product, or component of a product, such submittals shall be made in accordance with the following:
 1. A certificate submitted for a product, or component of a product, indicates test results proving that product, or component, meets the requirements of the standard specified in the Contract Documents.
 2. An affidavit consisting of a sworn statement by an official of the company manufacturing the product indicating that information on certificate is true and accurate shall accompany the certificate.
 3. A statement originating from CONTRACTOR, or his subcontractors, suppliers, or other agent which merely indicates that a particular item of equipment, product, or component of a product, meets the requirements of Contract Documents shall not be considered a certificate. A submittal

made in this manner will not be accepted and corresponding equipment, product, or component, shall not be finally accepted.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

**** END OF SECTION ****

SECTION 01 35 43

ENVIRONMENTAL PROCEDURES

PART 1 - GENERAL

1.01 SCOPE

- A. The CONTRACTOR and all of its employees and agents shall observe and comply with existing laws, ordinances, regulations and orders, in relationship to the protection of the total environment.
- B. The CONTRACTOR shall provide the following environmental controls:
 - 1. Chemicals Handling
 - 2. Noise Abatement
 - 3. Water Pollution Control

1.02 RELATED SECTIONS

- A. The Work of the following Sections apply to Work of this Section. Other Sections of the Specifications not referenced below shall also apply to the extent required for acceptable performance of the Work.
 - 1. Section 01 11 00 Summary of Work
 - 2. Section 01 41 00 Permits and Regulatory Requirements
 - 3. Section 01 33 00 Submittal Procedures
 - 4. Section 01 50 00 Temporary Utilities and Construction Facilities

1.03 LAYOUT, REMOVAL, AND CLEAN-UP OF TEMPORARY ENVIRONMENTAL CONTROLS

- A. Submit, for approval, working drawings showing proposed locations and details of environmental controls to be implemented in accordance with the requirements of regulations and ordinances pertaining to this project and Section 01 33 00, Submittal Procedures. Upon substantial completion of the Work, CONTRACTOR shall, in an acceptable manner, remove and dispose of all temporary structures, surplus environmental control material and rubbish from right of way, staging areas and any other areas utilized by Contractor.

1.04 CHEMICALS HANDLING

- A. All chemicals used during project construction or furnished for project operation, whether defoliant, soil sterilant, herbicide, pesticide, disinfectant, polymer, reactant or of other classification, shall be used and stored in accordance with procedures established by the U.S. Environmental Protection Agency, the U.S. Department of Agriculture or any other resource agency. Use of all such chemicals and disposal

of residues shall be in strict accordance with the printed instructions of the manufacturer.

1.05 NOISE ABATEMENT - Reference is made to Section 01 41 00, Part 1.3.c, Noise Abatement and Control

1.06 STORMWATER POLLUTION PREVENTION

A. The CONTRACTOR shall comply with requirements for Stormwater Management Practices as provided in Section 01 41 00, and shall be in accordance with the City of San Diego "Whitebook", City supplement to the Standard Specifications for Public Works Construction, 2018 Edition, Section 1001-4.

PART 2 - PRODUCTS [NOT USED]

PART 3 - EXECUTION [NOT USED]

****END OF SECTION****

SECTION 01 41 00

PERMITS AND REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.01 SCOPE

- A. The CONTRACTOR shall comply with all regulatory and permit requirements, including but not limited to the following:
 - 1. City Permits
 - 2. Special Inspections
 - 3. Noise Abatement and Control Regulations
 - 4. Storm Water Discharge Control
- B. The Work required by this section shall be paid under the Environmental Compliance Bid Item and the Best Management Practice (BMP) Bid Items, if the latter are included in the Bid Schedule. If no Environmental Compliance Bid Item is included in the Bid Schedule, then the Work shall be included in and charged against other Bid Items in the Bid Schedule.

1.02 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 01 33 00 Submittal Procedures
 - 2. Section 01 45 00 Quality Control
 - 3. Section 01 50 00 Temporary Utilities and Construction Facilities
 - 4. Section 01 35 43 Environmental Procedures

1.03 DEFINITIONS AND REQUIREMENTS

- A. City Permits: There is no requirement for a City Development Services Department issued building permit for this Work.
- B. Special Inspections: Special Inspections shall be in accordance with the California Building Code (CBC), as adopted by the City of San Diego. When building components are fabricated off-site, the CONTRACTOR must submit an application to the City to perform off-site fabrications and submit certificates of compliance. The CONTRACTOR shall use approved suppliers or pay for special inspections at the place of manufacture. Special inspection procedures for both on-site and off-site inspections are further addressed in Section 01 45 00 - Quality Control.

C. Noise Abatement and Control: The CONTRACTOR shall comply with applicable State of California, City of San Diego and County of San Diego (when applicable) noise control regulations. The CONTRACTOR shall conduct all Work in a manner that avoids exceeding the legal noise limits specified in Tables 1 and 2.

1. Sound Level Limits:

**Table 1
City of San Diego
Sound Level Limits at or Beyond Project Boundary Lines**

	Receptor Land Use Zone ¹	L _{eq} (1h) Sound Level ² , dBA		
		7am-7pm	7pm-10pm	10pm-7am
1.	Residential: - All R-1	50	45	40
2.	Residential: - All R-2	55	50	45
3.	Residential: - R-3, R-4 and, all other Residential	60	55	50
4.	All Commercial:	65	60	60
5.	Manufacturing, Industrial, Agricultural, Extractive Industry	75	75	75
6.	All Residential Zones due to Facility Construction (Note 1 does not apply):	75	no const. allowed	no const. allowed
1. The sound level limits at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts.				
2. The requirements of more restrictive City codes shall apply.				

**Table 2
County of San Diego
Sound Level Limits at or Beyond Project Boundary Lines**

	Receptor Land Use Zone ¹	L _{eq} (1h) Sound Level ² , dBA	
		7am-10pm	10pm-7am
1.	Residential density less than 11 dwellings per acre: R-S, R-D, R-R, R-MH, A-70, A-72, S-80, S-81, S-87, S-88, S-90, S-92, R-V, and R-U	50	45
2.	Residential density equal to or greater than 11 dwellings per acre: R-RO, R-C, R-M, C-30, S-86	55	50
3.	S-94 and all other Commercial:	60	55
4.	M-50, M-52, M-54	70	70
5.	S-82, M-58, and all other Industrial	75	75
6.	All Residential Zones due to Facility Construction (Note 1 does not apply):	75	no const. allowed
1. The sound level limits at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts.			
2. The requirements of more restrictive County codes shall apply.			

2. Night-time and Holiday Work: If CONTRACTOR desires to perform Work between the hours of 7 p.m. and 7 a.m., or at any time on a Sunday or City Holiday, then the CONTRACTOR shall obtain and pay for necessary permits from City Noise Control Officer and other appropriate agencies, and make necessary arrangements prior to commencing Work, including attendance at Public Hearings. Provide a copy of the Noise Permit to the CONSTRUCTION MANAGER.
- D. Storm Water Discharge Control: The CONTRACTOR shall comply with all applicable storm water standards, orders or requirements including: Construction Activities Storm Water General Permit (Order No. 99-08-DWQ); Adopted Modifications of the Construction Activities Storm Water General Permit (Resolution No. 2001-046); Municipal Storm Water Permit (Order No. 2001-01); and City' Urban Runoff Management and Standard Urban Storm Water Mitigation Plans. CONTRACTOR shall also comply with Chapter 4, Article 3, Division 3 of the San Diego Municipal Code entitled, "Storm Water Management and Discharge Control [Ordinance No. 0-17988 (New Series)]," latest adopted ordinance. This ordinance prohibits the discharge of polluted runoff and non-storm water to a storm water conveyance system, except as provided in Municipal Code, Section 43.0305. Copies of the ordinance are available at the office of the City Clerk.
1. The CONTRACTOR shall prepare a Water Pollution Control Plan (WPCP) to include: project description and schedule; potential pollution sources; lists of BMPs for all phases of Work; and a construction BMP maintenance, inspection and repair program. A WPCP template will be provided by the OWNER upon request. The WPCP shall be submitted to the CONSTRUCTION MANAGER for review and acceptance. CONTRACTOR shall revise the WPCP to the OWNER's satisfaction, file one copy of the completed document with OWNER, and maintain the WPCP at the construction site. CONTRACTOR shall implement and update the WPCP, when necessary, monitor the construction site, and maintain BMPs in effective working condition.
 2. Storm water BMPs identified in the project shall be incorporated into the WPCP.
- E. Other National Pollutant Discharge Elimination System Permit(s):
1. The CONTRACTOR shall comply with the General Permit for Discharges of Hydrostatic Test Water and Potable Water to Surface Waters and Storm Drains. The discharge water must be dechlorinated to a non-detectable or 0.1 mg/l level, effluent pH has to be maintained between 6 and 9, and the release cannot cause downstream erosion or a violation of a water quality standard in the Regional Water Quality Control Board' (RWQCB') Basin Plan.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 NOISE ABATEMENT AND CONTROL

- A. Construction Noise Monitoring:
 - 1. Noise shall be monitored during all construction phases at critical locations so that construction noise at the identified noise-sensitive receptors does not exceed the limits shown in Section 01 41 00, Part 1.3.C.
 - 2. The construction noise monitoring shall be conducted by a qualified acoustical consultant to be provided by OWNER. Acoustician shall submit weekly monitoring reports to CONTRACTOR, Construction Manager, OWNER's Project Manager, and Environmental and Permits Section (EPS).
- B. The CONTRACTOR must provide temporary controls to limit construction noise in accordance with Section 01 41 00, Part 1.3.C, Noise Abatement and Control. If necessary, acoustician shall submit plans via CONTRACTOR to CONSTRUCTION MANAGER, OWNER's Project Manager, and Environmental and Permits Section (EPS) for mitigating construction noise impacts and complying with applicable noise criteria, including method of construction, equipment to be used, and acoustical treatment.

3.02 WPCP IMPLEMENTATION

- A. The CONTRACTOR shall avoid erosion, turbidity and siltation entering and leaving the Work site by proper scheduling of Work and careful construction practices, and by employing BMPs for erosion and sediment control.
- B. The CONTRACTOR shall provide immediate erosion and sediment control protection for areas of the construction site that are not being actively graded and would be left exposed for a period of 7 calendar days or greater.
- C. A Clean Storm Water informational bulletin, to be provided by OWNER, shall be posted on the jobsite by CONTRACTOR.

**** END OF SECTION ****

SECTION 01 42 00

REFERENCES

PART 1 - GENERAL

1.01 SCOPE

- A. For products or workmanship specified by association, trade, or Federal Standards, CONTRACTOR shall comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. The date of the standard is that in effect as of the Bid date, except when another specific date is specified.
- C. Obtain copy of referenced standards. Maintain copy at job site during submittals, planning, and progress of Work, until Substantial Completion.

1.02 SCHEDULE OF REFERENCES

- A. ACI-American Concrete Institute
Box 19150
Redford Station
Detroit, MI 48219
- B. AISC-American Institute of Steel Construction, Inc.
400 North Michigan Avenue
Eighth Floor
Chicago, IL 60611
- C. AISI-American Iron and Steel Institute
1000 16th Street, N.W.
Washington, DC 20036
- D. AMCA-Air Movement and Control Association
30 West University Drive
Arlington Heights, IL 60004
- E. ANSI-American National Standards Institute
1430 Broadway
New York, NY 10018
- F. ASME-American Society of Mechanical Engineers
345 East 47th Street
New York, NY 10017
- G. ASTM-American Society for Testing and Materials
1916 Race Street
Philadelphia, PA 19103

- H. AWWA-American Water Works Association
6666 West Quincy Avenue
Denver, CO 80235

- I. AMPP- The Association for Materials Protection and Performance (Formerly known as NACE (National Association of Corrosion Engineers) and SSPC (Society for Protective Coatings)
15835 Park Ten Place
Houston, Texas 77084, USA

- J. OSHA-Occupation Safety and Health Administration
U. S. Department of Labor
Washington, DC

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

**** END OF SECTION ****

SECTION 01 45 00

QUALITY CONTROL

PART 1 - GENERAL

1.01 SCOPE

- A. The CONTRACTOR shall produce Work that meets the quality required by the Contract Documents and shall perform the quality control efforts necessary to ensure those requirements are met. The CONSTRUCTION MANAGER's inspection of any Work will not relieve the CONTRACTOR of the primary responsibility for such efforts.
- B. Specific quality control requirements for the Work are indicated throughout the Contract Documents. The requirements of this Section are primarily related to performance of the Work beyond furnishing of manufactured products. The term "Quality Control" includes inspection, sampling and testing, and associated requirements.

1.02 RELATED SECTIONS

- A. The Work of the following Sections apply to Work of this Section. Work of other Sections of the Specifications not referenced below shall also apply to the extent required for proper performance of the Work.
 - 1. Section 01 71 23 Field Engineering
 - 2. Section 01 33 00 Submittal Procedures
 - 3. Section 11 01 00 Operation and Maintenance of Equipment
 - 4. Section 01 25 00 Substitution Procedures
 - 5. Section 4 Control of Materials, Part 1 General Provisions

1.03 PROJECT QUALITY CONTROL PLAN

- A. The CONTRACTOR shall submit to the CONSTRUCTION MANAGER a Quality Control Plan for review and acceptance within 21 days of the Notice to Proceed. The submittal must be accepted before construction Work begins. The Quality Control Plan will include:
 - 1. A description of the workings and structure of the CONTRACTOR's Quality Control Plan that will be implemented to assure quality Work will be done.
 - 2. A contract specific Inspection Plan that lists and describes inspections, including independent third-party inspection by the CONTRACTOR, that the CONTRACTOR will conduct, their frequency, acceptance criteria, and who will conduct each inspection. The Inspection Plan shall include the Work to be performed by qualified independent third-party inspectors, subcontractors, fabricators, and suppliers.

3. Identification of the individuals within the CONTRACTOR's organization who are responsible for quality control including their role and authority.
- B. After completion of the CONSTRUCTION MANAGER'S review of the CONTRACTOR's Quality Control Plan, the CONTRACTOR and CONSTRUCTION MANAGER will meet to discuss and define quality standards and expectations and to coordinate the CONSTRUCTION MANAGER'S inspection efforts with the CONTRACTOR'S planned efforts.
 - C. CONTRACTOR will be obligated to accommodate procedural changes to contract required quality control issues requested by the CONSTRUCTION MANAGER.

1.04 FACTORY INSPECTIONS AND TESTS

- A. The CONTRACTOR shall provide all schedules and schedule updates using hard copy and electronic files on CD-RW disks. The CONTRACTOR shall be responsible for inspection and testing of materials, products, or equipment at the place of manufacture at its own expense when required by the Contract Documents. Where specified in the Contract Documents, the OWNER/CONSTRUCTION MANAGER will perform inspection and witness tests on materials, products, or equipment at the place of manufacture. The CONTRACTOR shall bear all costs for inspection and for witnessing factory tests by the OWNER's/CONSTRUCTION MANAGER's representatives as nominated by the OWNER for the number of days indicated for such inspections and observations. These costs shall include travel expenses, and expenses for lodging, meals, and car rental if the place of manufacture, fabrication and factory testing is more than fifty (50) miles outside the geographical limit of the City. If air travel is involved, it shall include economy class tickets. Costs paid by the CONTRACTOR for inspection and for witnessing factory tests shall not include the salaries or salary-related expenses of the inspectors.
- B. Where the Plans and/or Technical Specifications indicate that factory inspection and witnessing of testing by the OWNER/CONSTRUCTION MANAGER is optional or discretionary, the OWNER will pay for travel and related costs associated with such inspection and witnessing of tests by the OWNER's/CONSTRUCTION MANAGER's representatives.
- C. The presence of the OWNER's/CONSTRUCTION MANAGER's representatives at the place of manufacture shall not relieve the CONTRACTOR of the responsibility for furnishing materials, products, and equipment which comply with all requirements of the Contract Documents. The CONTRACTOR is obligated to meet the requirements of the Contract Documents, and any act or omission on the part of the OWNER/CONSTRUCTION MANAGER shall not relieve the CONTRACTOR of the obligation to fulfill the requirements of its Contract.
- D. In cases, where the OWNER/CONSTRUCTION MANAGER is indicated to perform inspection and witness tests, the CONTRACTOR shall provide the CONSTRUCTION MANAGER, as a minimum, an advance notice of fourteen (14) calendar days prior to the start of any testing at the place of manufacture. This

notice period may be modified depending on the requirements of each specification section in the technical specifications of the Contract Documents.

- E. When tests fail to meet the specified requirements, retesting because of non-conformance to specified requirements shall be performed by the same testing laboratory as directed by the OWNER/CONSTRUCTION MANAGER. The CONTRACTOR shall bear all costs for such retesting, including costs for additional trips for factory inspection and testing by OWNER's / CONSTRUCTION MANAGER's inspectors.
- F. For samples and tests required by the CONTRACTOR for its own quality assurance program and needs, including specified independent third-party inspections, whether or not specified in the Contract Documents, costs shall be included in the Contract Price.
- G. All factory inspections and tests required by the specifications, regulatory permits, or referenced codes and standards shall be the responsibility of the CONTRACTOR, unless specifically noted otherwise.

1.05 SAMPLING AND TESTING

- A. Unless otherwise indicated, all sampling and testing shall be in accordance with the methods prescribed in the most current standards of the ASTM, NACE/SPCC (Both now under AMPP), as applicable to the class and nature of the material, product, or equipment considered; however, the OWNER will use any generally-accepted system of sampling and testing which will insure that the quality of the workmanship is in full agreement with the Contract Documents.
- B. Any waiver by the OWNER of any specific testing or other quality assurance measures, whether or not such waiver is accompanied by a guarantee of substantial performance as a relief from the specified testing or other quality assurance requirements as originally specified, and whether or not such guarantee is accompanied by a performance bond to assure execution of any necessary corrective or remedial work, shall not be construed as a waiver of any requirements of the Contract Documents.
- C. Notwithstanding the existence of such waiver, the CONSTRUCTION MANAGER will make independent investigations and tests; and failure of any portion of the Work to meet any of the requirements of the Contract Documents shall be reasonable cause for the CONSTRUCTION MANAGER to require the removal or correction and reconstruction of any such work in accordance with the Contract Documents.

1.06 INSPECTION AND TESTING LABORATORY SERVICE

- A. The OWNER will provide and pay for the services of a testing laboratory to perform routine testing of earth work and concrete at the site, and perform random tests of other areas previously completed and inspected by CONTRACTOR.

- B. The OWNER's testing laboratory will perform other inspections, testings, and other services specified in the Contract Documents, to be performed by the OWNER, or as required by the CONSTRUCTION MANAGER. The cost of these services will be paid for by the OWNER.
- C. Construction work located in the City right-of-way is subject to testing by the City Materials Test Lab. The CONTRACTOR shall coordinate with the CONSTRUCTION MANAGER to obtain City Materials Test Lab Services.
- D. Reports will be submitted by the OWNER's testing laboratory to the CONSTRUCTION MANAGER in duplicate, indicating observations and results of tests, and indicating compliance or non-compliance with Contract Documents.
- E. The CONTRACTOR shall cooperate with the CONSTRUCTION MANAGER and OWNER's testing laboratory by furnishing samples of materials, concrete design mix, equipment, tools, storage and other assistance as requested.
- F. The CONTRACTOR shall notify the CONSTRUCTION MANAGER 48 hours prior to the expected time for operations requiring inspection and laboratory testing services.
- G. Retesting required because of non-conformance to specified requirements shall be performed by the same testing laboratory as directed by the CONSTRUCTION MANAGER. The CONTRACTOR shall bear all costs from such retesting at no additional cost to the OWNER.
- H. For samples and tests required for the CONTRACTOR's use, the CONTRACTOR shall make arrangements with a qualified independent third-party firm for payment and scheduling of testing. The cost of sampling and testing for the CONTRACTOR'S use shall be included in the Contract Price.
- I. All tests required by the specifications or referenced codes and standards are the responsibility of the CONTRACTOR, unless specifically noted otherwise.

1.07 SPECIAL INSPECTION

- A. The Uniform Building Code requires that special inspections be performed on certain structural elements of the project. The OWNER through its CONSTRUCTION MANAGER will perform all on-site special inspections required by Section 1701 of the 1997 version of the Uniform Building Code. The cost of these services when provided during normal Work hours will be paid for by the OWNER.
- B. When building components are fabricated off site, the CONTRACTOR must utilize a fabricator approved by the City of San Diego Development Services Department. The CONTRACTOR must submit applications to perform off-site fabrications and certificates of compliance in accordance with Development Services Department procedures. If the CONTRACTOR elects to utilize a fabricator that is not approved by the Development Services Department, the CONTRACTOR shall provide a special inspector to perform continuous special inspection in the fabricator's shop.

The special inspector must be certified by the Inspection Services Division of the City of San Diego Development Services Department. The CONTRACTOR shall be responsible for all costs associated with performing special inspection in the fabricator's shop.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Inspection: The CONTRACTOR shall inspect materials or equipment upon arrival on the job site and immediately prior to installation. The CONTRACTOR shall reject damaged and defective items. This inspection shall include a review of Contract requirements; a check to assure that all materials and/or equipment have been tested, submitted, and approved; examination of the work area to ascertain that all preliminary work has been completed; and a physical examination of materials and equipment to assure that they conform to reviewed shop drawings or submittal data. This inspection shall also include instruction as necessary to assure that workmen know the requirements of the Contract as they pertain to the feature, an examination of the quality of workmanship, as well as a review of control testing for compliance with the Contract requirements.
- B. Measurements: The CONTRACTOR shall verify measurements and dimensions of the Work, as an integral step of starting each installation.
- C. Special Procedures: Methods and facilities shall be provided to assure conformance with requirements for special process specifications such as welding, heat treating and nondestructive testing of materials. Certifications for personnel, procedures, and equipment shall be maintained as required to meet the requirement of the Contract Documents and all applicable codes.
- D. Manufacturer's Instructions: Where installations include manufactured products, the CONTRACTOR shall comply with manufacturer's applicable instructions and recommendations for installation, to whatever extent these are more explicit or more stringent than applicable requirements indicated in Contract Documents. The CONTRACTOR shall obtain certifications from the manufacturer of products used for the Work that CONTRACTOR's applicators are qualified to apply the manufacturers products.

3.02 MANUFACTURER'S FIELD INSTALLATION SERVICES AND REPORTS

- A. When specified in individual specification sections, the CONTRACTOR shall require material or product suppliers or equipment manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, (test, adjust, and balance of equipment) and to provide instructions when necessary.

- B. The CONTRACTOR shall report to the CONSTRUCTION MANAGER in writing any observations and site decisions or instructions given by the manufacturers' representative to the CONTRACTOR that are supplemental or contrary to manufacturers' written instructions.

- C. The CONTRACTOR shall submit manufacturer representative's reports (in duplicate) within 10 days of each field visit, to the CONSTRUCTION MANAGER for review. If duration of field visit is greater than one week, submit weekly reports. The final report shall certify that equipment or system has been satisfactorily installed and is functioning correctly.

**** END OF SECTION ****

SECTION 01 50 00

TEMPORARY UTILITIES AND CONSTRUCTION FACILITIES

PART 1 - GENERAL

1.01 SCOPE

- A. The CONTRACTOR may use existing construction trailers on the Otay Water Treatment Plant boundaries. The CONTRACTOR is responsible for providing their own utilities to the existing trailers at no cost to the OWNER. Notwithstanding, the CONTRACTOR shall provide facilities required for construction and temporary controls during the construction, including the following:
1. Layout of temporary facilities
 2. Temporary utilities
 3. Barriers
 4. Enclosures
 5. Protection of installed Work
 6. Temporary Controls
 7. Security
 8. Access roads and parking
 9. Field offices and sheds
 10. Removal of utilities, facilities and controls

1.02 RELATED SECTIONS

- A. The Work of the following Sections apply to Work of this Section. Work of other Sections of the Specifications not referenced below shall also apply to the extent required for proper performance of the Work.
1. Section 01 11 00 Summary of Work
 2. Section 01 31 13 Project Coordination
 3. Section 01 41 00 Permits and Regulatory Requirements
 4. Section 01 35 43 Environmental Procedures

1.03 LAYOUT OF TEMPORARY FACILITIES

- A. Submit drawings for approval showing proposed locations and sizes of offices, shops, storage areas, fencing, temporary stationary equipment, and similar facilities. Where onsite space for temporary facilities is limited, allocation of available space will be made by CONSTRUCTION MANAGER. Should CONTRACTOR require space in addition to that allocated, CONTRACTOR shall make his own arrangements for storage of materials and equipment in a location

off the construction site. For allocated space, submit to CONSTRUCTION MANAGER for approval proposed plan and layout for temporary offices, sanitary facilities, temporary construction roads, storage buildings, storage yards, and temporary power service and distribution. Said facilities shall be located so as not to impede or prevent the principal function of existing facilities.

1.04 TEMPORARY UTILITIES

A. General

1. Provide and maintain temporary and interim utility services necessary for performance of Work. Include costs associated with these services in lump sum price bid.
2. Wherever feasible, the CONTRACTOR shall engage the utility company to install temporary service to the project, or as a minimum, to make connection to existing utility service; shall locate services where they will not interfere with total project construction work, including installation of permanent utility services; shall maintain temporary services as installed for required period of use; and shall relocate, modify or extend as necessary from time to time during that period as required to accommodate total project construction work.
3. Install and maintain utilities to comply with applicable code, safety, and utility company requirements.
4. Connect to OWNER's utility service only on approval of CONSTRUCTION MANAGER. Provide submeter for connections to OWNER's utilities and pay for utility used.
5. Use of permanent utilities or equipment during construction shall not constitute start of warranties or guaranties.
6. Inspections: Prior to placing temporary utility services into use, the CONTRACTOR shall inspect and test each service and arrange for governing authorities' required inspection and tests, and obtain required certifications and permits for use thereof.
7. Termination and Removal: When need for a temporary utility service or a substantial portion thereof has ended, or when its service has been replaced by use of permanent services, or not later than time of substantial completion, the CONTRACTOR shall promptly remove installation unless requested by CONSTRUCTION MANAGER to retain it for a longer period. The CONTRACTOR shall complete and restore work which may have been delayed or affected by installation and use of temporary utilities, including repairs to construction and grades and restoration and cleaning of exposed surfaces.

B. Electricity

1. CONTRACTOR Operations: the CONTRACTOR shall pay all costs for temporary electrical system installation and usage charges associated with its operations.

2. Provide connections, sized to provide service required for power and lighting. Feeder and branch wiring with area distribution boxes shall be located so that power is available through project site by use of power cords. Provide terminations for each voltage supply complete with circuit breakers, disconnect switches and other electrical devices required to protect power supply system.
3. Approval of Electrical Connections: All temporary connections for electricity shall be subject to approval of the CONSTRUCTION MANAGER and the power company representative, and shall be removed in like manner at the CONTRACTOR's expense prior to final acceptance of the Work.
4. Provide and maintain lighting for construction operations.
 - a. Construction Lighting: All work conducted at night or under conditions of deficient daylight shall be suitably lighted to insure proper work and to afford adequate facilities for inspection and safe working conditions.
 - b. Temporary Lighting: The CONTRACTOR shall provide a general, weatherproof, grounded temporary lighting system in every area of construction work, as soon as is practically feasible and provide sufficient illumination for safe work and traffic conditions; and run circuit wiring generally overhead, and rise vertically in locations where it will be least exposed to possible damage from construction operations on grade, floors, or other recognized areas of possible damage or abuse.
 - c. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.
 - d. Maintain lighting and provide routine repairs.
 - e. Permanent building lighting shall not be utilized during construction without prior written approval of the CONSTRUCTION MANAGER.
5. Separation of Circuits: Unless otherwise permitted by the CONSTRUCTION MANAGER, circuits separate from lighting circuits shall be used for all power purposes.
6. Construction Wiring: All wiring for temporary electric light and power shall be properly installed and maintained and shall be securely fastened in place. All electrical facilities shall conform to the requirements of Title 8, Industrial Relations, Sub-chapter 5, Electrical Safety Orders, California Administrative Code; and Subpart K of the OSHA Safety and Health Standards for Construction.
7. Temporary electrical power for use during construction shall not interfere with or adversely affect the normal operation of OWNER'S existing facilities.
8. Power: The CONTRACTOR shall provide all necessary power required for its operations under the Contract, at no additional cost to OWNER.
 - a. Temporary Power Distribution: The CONTRACTOR shall provide a weatherproof, grounded, temporary power distribution system

sufficient to accommodate performance of entire Work of the Contract, including but not necessarily limited to temporary electrical heating where indicated; operation of test equipment and test operation of building equipment and systems which cannot be delayed until permanent power connections are operable; temporary operation of other temporary facilities, including permanent equipment and systems which must be placed in operation prior to use of permanent power connections (pumps, VAC. equipment, elevators, and similar equipment); and power for temporary operation of existing facilities (if any) at the site during change-over to new permanent power system. Provide circuits of adequate size and proper power characteristics for each use; run circuit wiring generally overhead, and rise vertically in locations where it will be least exposed to possible damage from construction operations, and result in least interference with performance of the Work; provide rigid steel conduit or equivalent raceways for wiring which must be exposed on grade, floors, decks, or other recognized exposures to damage or abuse.

- b. Provide power outlets for CONTRACTOR's operations, with transformers, branch wiring and distribution boxes located safely and conveniently for the proposed construction activities. Provide flexible power cords as required.
- c. Maintain main service disconnect and overcurrent protection at source distribution equipment.
- d. Permanent convenience receptacles may not be utilized during construction.

C. Temporary Heat

- 1. Provide as required to maintain specified conditions for construction operations, to protect materials and finishes from damage due to temperature or humidity.
- 2. Any part of building or materials that become damaged because of lack of heat shall be replaced by CONTRACTOR and expenses to be borne by CONTRACTOR.
- 3. Prior to operation of permanent facilities for temporary purposes, verify that installation is approved for operation, and that filters are in place. Provide and pay for operation, maintenance, utilities, and other associated items.
- 4. Maintain minimum or higher ambient temperature of 50 degrees F in areas where construction is in progress, unless indicated otherwise in specifications.

D. Temporary Ventilation

- 1. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

2. Utilize existing ventilation equipment. Extend and supplement equipment with temporary fan units as required to maintain clean air for construction operations.

E. Temporary Water Service

1. Provide, maintain and pay for suitable quality water service required for construction operations.
2. The CONTRACTOR shall provide and operate all pumping facilities, pipelines, backflow preventers, valves, hydrants, storage tanks, and all other equipment necessary for the adequate development and operation of the water supply system. Water used for domestic purposes shall be free of contamination and shall conform to the requirements of the State and local authorities for potable water. The CONTRACTOR shall be solely responsible for the adequate functioning of its water supply system and shall be solely liable for any claims arising from the use of same, including discharge or waste of water therefrom.
3. The CONTRACTOR shall coordinate with the CONSTRUCTION MANAGER for obtaining water service connections. The CONTRACTOR shall, at no additional cost to the OWNER, provide all facilities necessary to convey the water from the source to the points of use in accordance with the requirements of the Contract Documents.
4. The CONTRACTOR shall pay all water permit fees and any fees for the water meter(s). All charges for water use shall be paid for by the CONTRACTOR, except as noted below.
5. Water Connections: The CONTRACTOR shall not make connection to, or draw water from, any fire hydrant or pipeline without first obtaining permission of the authority having jurisdiction over the use of said fire hydrant or pipeline and from the agency owning the affected water system. For each such connection made, the CONTRACTOR shall first attach to the fire hydrant or pipeline a valve and a meter, if required by the said authority, of a size and type acceptable to said authority and agency.
6. The CONTRACTOR shall provide potable water service for field offices.
7. The OWNER will provide initial filling water for testing and water for final flushing of piping. Costs of flushing water and refilling piping due to testing failures shall be borne by the CONTRACTOR. For Testing and Disinfection of reservoirs the OWNER will provide water sufficient to fill the reservoir one time. If, as a result of failure to meet testing and/or disinfection requirements, additional water is required, the CONTRACTOR shall pay for the additional water.

F. Sanitary Facilities

1. Toilet Facilities: Fixed or portable chemical toilets shall be provided wherever needed for the use of CONTRACTOR's employees. Toilets at construction job sites shall conform to the requirements of Subpart d, Section 1926.51 of the OSHA Standards for Construction. A sanitary sewer is available in the area designated for the CONTRACTOR's field office

trailer. The CONTRACTOR must coordinate with the utility department for obtaining sewer connection and shall pay all permit and usage charges.

2. Sanitary and Other Organic Wastes: The CONTRACTOR shall establish a regular daily collection of all sanitary and organic wastes. All wastes and refuse from sanitary facilities provided by the CONTRACTOR or organic material wastes from any other source related to the CONTRACTOR's operations shall be disposed of away from the site in a manner satisfactory to the CONSTRUCTION MANAGER and in accordance with all laws and regulations pertaining thereto.
3. Construction personnel shall not use existing Sanitary Facilities if any existing.
4. Remove temporary facilities for the site at completion of Work.

G. Fire Protection

1. Provide temporary fire protection equipment for protection of personal and property during Work. Remove debris and flammable materials daily to minimize potential hazards.
2. Fire Protection: All parts of the Work shall be connected with the CONTRACTOR's water supply system and shall be adequately protected against damage by fire. Hose connections and hose, water casks, chemical equipment, or other sufficient means shall be provided for fighting fires in the temporary structures and other portions of the Work, and responsible persons shall be designated and instructed in the operation of such fire apparatus so as to prevent or minimize the hazard of fire. The CONTRACTOR's fire protection program shall conform to the requirements of Article 34, Section 1805, b of Cal-OSHA, and Subpart F of the OSHA Standards for Construction.

1.05 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas, to allow for OWNER's use of site, and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing buildings.
- C. Provide protection for plant life designated to remain. Replace damaged plant life. Replacement of sensitive habitat to be conducted under supervision of a qualified biologist, to be provided by owner.
- D. Protect non-owned vehicular traffic, stored materials, site and structures from damage.
- E. Provide minimum 8 foot high fence around construction site; equip with vehicular and pedestrian gates with locks. Construction: Commercial grade chain link fence.

1.06 ENCLOSURES

A. Exterior Enclosures

1. Provide temporary insulated weather-tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification Sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.07 PROTECTION OF INSTALLED WORK

- A. Protect installed Work and provide special protection where specified in individual specification Sections.
- B. Provide temporary and removable protection for installed Products. Control activity in immediate work area to minimize damage.
- C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- E. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- F. Prohibit landscaped areas from traffic.

1.08 TEMPORARY CONTROLS

A. Drainage and Erosion Control

1. The CONTRACTOR shall comply with all applicable requirements for storm water discharge control contained in Section 01 41 00, Permits and Regulatory Requirements.
2. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
3. Protect site from puddling or running water. Provide best management practices as required to minimize soil erosion and avoid downstream sedimentation.
4. Plan and execute construction using methods to control surface drainage from cuts and fills, as well as from borrow and waste disposal areas.
5. Minimize amount of bare soil exposed at any one time.
6. Provide temporary measures such as berms, dikes, and drains to control water flow.

7. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
 8. Periodically inspect earthwork to detect evidence of erosion and sedimentation and promptly apply corrective measures when warranted.
- B. Dust and Overspray Control
1. Execute Work using methods to minimize raising dust from construction operations and, to prevent air-borne dust from dispersing into atmosphere. Such methods include tenting, keeping tented airspace under negative pressure or any other such environmental efforts to prevent fugitive dust from surface preparation, overspray from coating or shotcreting from escaping the work areas.
- C. Construction Noise Control
1. The CONTRACTOR shall oversee or undertake all construction activities so as to comply with all noise regulations. Use appropriate construction methods and equipment, and furnish and install acoustical barriers as necessary, to avoid exceeding legal noise levels as specified in Section 01 41 00, Part 1.3.C, Noise Abatement and Control.
- D. Rodent and Pest Control
1. Keep work area, including storage areas, free from rodents, noxious pests, and other vermin.
 2. The CONSTRUCTION MANAGER shall notify CONTRACTOR on any noncompliance with this requirement and of the corrective action required. This notice, when delivered to CONTRACTOR or CONTRACTOR's representative at site of Work, shall be deemed sufficient notice of noncompliance and corrective action shall be required. After receiving notice, immediately take corrective action. If CONTRACTOR fails or refuses to eliminate rodents, pests or vermin and causes thereof promptly, OWNER may have necessary extermination work performed and charge costs to CONTRACTOR.
- E. Pollution Control
1. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.
- F. Cleaning: CONTRACTOR shall execute cleaning as specified in this Section 01 50 00, during progress of the Work, at completion of the Work as specified in City of San Diego "Whitebook", City supplement to the Standard Specifications for Public Works Construction, 2018 Edition, Section 3-13.1.1, and as required by General Conditions. If the CONTRACTOR fails to clean areas as specified, the OWNER will have the areas cleaned and back charge the CONTRACTOR.
1. Requirements of regulatory agencies:

- a. In addition to the requirements herein, maintain the cleanliness of the Work and surrounding premises within the Work limits so as to comply with federal, state, and local fire and safety laws, ordinances, codes and regulations.
 - b. Comply with all federal, state and local anti-pollution laws, ordinances, codes and regulations when disposing of waste materials, debris and rubbish.
2. Scheduling of cleaning and disposal operations:
 - a. So that dust, wash water or other contaminants generated during such operations do not damage or mar painted or finished surfaces.
 - b. To prevent accumulation of dust, dirt, debris, rubbish and waste materials on or within the Work or on the premises surrounding the Work.
3. Waste disposal:
 - a. Dispose of all waste materials, surplus materials, debris and rubbish off the project site.
 - b. Do not burn or bury rubbish and waste materials on the project site.
 - c. Do not dispose of volatile or hazardous wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
 - d. Do not discharge wastes into streams or waterways.
 - e. For handling and disposal of hazardous wastes, CONTRACTOR shall comply with City of San Diego "Whitebook", City supplement to the Standard Specifications for Public Works Construction, 2018 Edition, Section 5-15.
4. Cleaning materials:
 - a. Use only cleaning materials recommended by manufacturer of surface to be cleaned.
 - b. Use each type of cleaning material on only those surfaces recommended by the cleaning material manufacturer.
 - c. Use only materials which will not create hazards to health or property.
5. During the progress of the Work
 - a. Keep the Work and surrounding premises within Work limits free of accumulations of dirt, dust, waste materials, debris and rubbish.
 - b. Keep dust generating areas wetted down.
 - c. Provide suitable containers for storage of waste materials, debris and rubbish until time of disposal.
 - d. Dispose of waste, debris and rubbish off site weekly to legal disposal areas.

1.09 SECURITY

A. Security Program

1. Protect Work existing premises and OWNER's operations from theft, vandalism, and unauthorized entry.
2. Develop, and submit a written CONTRACTOR security plan to be approved by the Owner prior to job mobilization.
3. Maintain program throughout construction period until directed by CONSTRUCTION MANAGER.

B. Entry Control

1. Restrict entrance of persons and vehicles into Project site and existing facilities.
2. Allow entrance only to authorized persons with proper identification (picture ID).
3. Maintain daily log of workmen, vendors and visitors, make available to OWNER or designated owner's representative on request.
4. OWNER will control entrance of persons and vehicles related to OWNER's operations.
5. CONTRACTOR to coordinate access of CONTRACTOR's personnel to and from project site. CONTRACTOR's project entry/exit procedures to be implemented in conjunction with OWNER's security forces/plan. CONTRACTOR Personnel Identification Procedures
6. CONTRACTOR to provide daily project authorization access list to CONTRACTOR security forces to include all employees, sub-contractor employees, vendors and authorized visitors.
7. CONTRACTOR's security forces to manage personnel access list and require picture identification for authorized access to project.
8. CONTRACTOR will provide and establish two-way communications with CONTRACTOR security forces for coordination of access of employees/CONTRACTOR representatives and vendors not established on project access list.

C. Security Service

1. CONTRACTOR employed uniformed patrol service watchman will enforce the CONTRACTOR's written security program and maintain access procedures to project during CONTRACTOR working hours.
2. CONTRACTOR employed uniform guard will maintain a roving post during project non-working hours.

D. Restrictions

1. Do not allow cameras on site or photographs taken except by written approval of OWNER, or as required by the Contract Documents.

1.10 ACCESS ROADS AND PARKING

A. Access Roads

1. Construct and maintain temporary roads accessing public thoroughfares to serve construction area.
2. Extend and relocate as Work progress requires. Provide detours necessary for unimpeded traffic flow.
3. Provide and maintain access to fire hydrants, free of obstructions.
4. Designated existing on-site roads may be used for construction traffic.

B. Parking:

1. When site space is not adequate, provide additional off-site parking.
2. Designate parking space for the OWNER and CONSTRUCTION MANAGER.

1.11 FIELD OFFICES AND SHEDS

A. CONTRACTOR's field office: The CONTRACTOR may use the existing City trailer on the Otay Water Treatment Plant site as the field office for the duration of the project. Provide and maintain temporary offices on the job site. Post a sign identifying CONTRACTOR and listing emergency telephone number(s) at, and outside of, CONTRACTOR's field office.

B. Cost of temporary office, including but not limited to the cost of heat, air conditioning, lighting, utilities, security, maintenance, and janitorial service, shall be paid by CONTRACTOR and included in Contract price.

1.12 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary above grade or buried utilities, equipment, facilities, materials, prior to Substantial Completion inspection.
- B. Remove underground installations to a minimum depth of 2 feet.
- C. Clean and repair damage caused by installation or use of temporary work.
- D. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

PART 2 - PRODUCTS [NOT USED]

PART 3 - EXECUTION [NOT USED]

**** END OF SECTION ****

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01 71 23
FIELD ENGINEERING

PART 1 - GENERAL

1.01 SCOPE

- A. General: This Section specifies CONTRACTOR's administrative and procedural requirements for field-engineering services and the CONTRACTOR's daily construction reporting including, but not limited to, the following:
1. Engineering services.
 2. Contractor's Daily Construction Report
 3. Authorization to proceed with excavation

1.02 RELATED SECTIONS

- A. The Work of the following Sections apply to the Work of this Section. Work of other Sections of the Specifications not referenced below shall also apply to the extent required for proper performance of this Work.
1. Section 01 45 00 Quality Control
 2. Section 3, Control of the Work, City of San Diego "Whitebook", City supplement to the Standard Specifications for Public Works Construction, 2018 Edition

1.03 SUBMITTALS

- A. Contractor's Daily Report: Using the standard report form "Contractor's Daily Construction Report" which is attached to this Section, the CONTRACTOR records daily work activities, utilization of manpower and equipment, site visits, and current or potential problems. The report includes the status of activities planned to be worked in accordance with the CONTRACTOR'S approved schedule. The CONTRACTOR transmits this report of the previous day's activities to the CONSTRUCTION MANAGER daily.
- B. Project Record Documents: Submit a record of Work performed and record survey data as required under provisions of City of San Diego "Whitebook", City supplement to the Standard Specifications for Public Works Construction, 2018 Edition, Section 3-7.3. Submit an electronic copy of all CADD (.dgn format) and Coordinate (ASCII.txt format), and alignment geometry files (format varies).

1.04 QUALITY ASSURANCE

Contractor's Daily Construction Report

Capital Improvement Program

DOWNTOWN
600 B Street, Suite 700
San Diego, CA 92101
(619) 533-4112
Fax (619) 533-5278

City of San Diego
WATER DEPARTMENT

Contractor's Daily Construction Report

Date: _____	Project Name: _____
To: _____	CIP No.: _____ W.O. No.: _____
Attn: _____	Contractor: _____
From: _____	Contract No.: _____
Subject: _____	

Weather Condition: Temperature a.m.: _____ p.m. _____
 Conditions a.m.: _____ p.m. _____
 Precipitation a.m.: _____ p.m. _____

Lost Time This Report: _____

Progress on Construction Activities Scheduled This Date:

Other Activities Occurring This Date:

Contractor			Subcontractor		
Manpower (List Trades)	No.	Work Hours	Firm/Discipline	No.	Work Hours
TOTALS					

Contractor's Daily Construction Report
continued

Contractor's Daily Construction Report

Page 2 of 2

Major Process Equipment/Materials Received On-Site This Date: _____

Construction Equipment Usage:

(List Each Equipment Item)	No.	Hours	Remarks

Special Problems Encountered and Solutions, If Resolved: _____

General Comments: _____

By: _____ Date: _____
Contractor's Signature

cc:

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Identification: The CONSTRUCTION MANAGER shall identify and perpetuate all existing survey control points and property line corner survey monuments or offsets.
- B. Verify layout information shown on the Drawings, in relation to the property survey and existing benchmarks, before proceeding to lay out the Work. Locate and protect existing benchmarks and control points. Preserve permanent reference points during construction.
 - 1. Do not change or relocate benchmarks or control points without prior written approval. Promptly report lost or destroyed reference points or requirements to relocate reference points because of necessary changes in grades or locations.
 - 2. Promptly replace lost or destroyed Project control points. Base replacements on the original survey control points.
- C. Establish and maintain a minimum of 2 permanent benchmarks on the site, referenced to data established by survey control points.
 - 1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
- D. Existing Utilities and Equipment: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction.

3.02 PERFORMANCE

- A. Work from lines and elevations established by the property survey. Establish benchmarks and markers to set lines and levels at each story of construction and elsewhere as needed to locate each element of the Project. Calculate and measure required dimensions within indicated or recognized tolerances. Do not scale Drawings to determine dimensions. Use dimensions provided on civil and/or architectural Drawings to determine locations of improvements.
 - 1. Advise subcontractors engaged in construction activities of marked lines and elevations provided for their use, and of the responsibility to protect and preserve these points.
 - 2. As construction proceeds, incorporate horizontal and vertical checks to verify the location of key and/or major improvements and meet existing conditions.

- B. Surveyor's Log: Maintain a surveyor's log of control and other survey work. Make this log available for reference.
 - 1. Record deviations from design grade, profiles and elevations, and advise the CONSTRUCTION MANAGER when deviations exceed industry standards for maintaining design criteria. On Project Record Drawings, record deviations that are accepted and not corrected.
 - 2. On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.
- C. Site Improvements: Locate and lay out site improvements, including pavements, stakes for grading, fill and topsoil placement, utility slopes, and invert elevations.

3.03 REQUEST FOR AUTHORIZATION TO PROCEED WITH AN EXCAVATION

- A. All excavation for earthwork, underground utility installation, foundation construction or temporary facilities, shall not begin until the CONTRACTOR has received authorization to proceed with the excavation from the CONSTRUCTION MANAGER.
- B. The purpose of the excavation authorization procedure is as follows:
 - 1. Notifies the Safety Representative of the need for monitoring the excavation and to assure that all safety plans and/or trench shoring plans have been reviewed.
 - 2. Advises the Safety Representative of the name of the Competent Person in charge of the excavation.
 - 3. Allows the CONSTRUCTION MANAGER to notify the CONTRACTOR of special conditions or procedures required during the excavation.
 - 4. Notifies the CONSTRUCTION MANAGER of any work that must be coordinated by the CONTRACTOR with other contractors, agencies on-site, or adjacent to the work site.
- C. The CONTRACTOR shall notify the CONSTRUCTION MANAGER of intention to excavate by transmitting "REQUEST FOR AUTHORIZATION TO PROCEED WITH EXCAVATION," at least five (5) days prior to the date proposed for the start of excavation. The CONTRACTOR shall not submit the request until all required safety/shoring plans have been reviewed and the notifications required have been completed.
- D. The CONTRACTOR shall number the requests consecutively as directed by the CONSTRUCTION MANAGER. When the excavation is authorized, a copy of the authorization shall be posted near the excavation and protected from rain or damage. The Competent Person responsible for the excavation shall have a copy of the authorization available at all times that work is underway in the excavation.
- E. Authorization to proceed with the excavation shall not relieve the CONTRACTOR of any responsibilities for conducting the work in a safe manner and meeting all the requirements of Construction Safety orders for Excavations, to include Section

3, Control of the Work, and 300-3, City of San Diego “Whitebook”, City supplement to the Standard Specifications for Public Works Construction, 2018 Edition.

PART 4 - EXHIBITS

4.01 REQUEST FORM

- A. Exhibit A - Request For Authorization To Proceed With Excavation

Exhibit A

REQUEST FOR AUTHORIZATION TO PROCEED WITH EXCAVATION

CONTRACTOR: _____ DATE: _____
REQUEST NO.: _____

DATES OF EXCAVATION: FROM: _____ TO: _____

(MAXIMUM FOUR (4) WEEKS. IF EXCAVATION MUST CONTINUE A NEW AUTHORIZATION MUST BE OBTAINED.)

DESCRIPTION OF EXCAVATION:

SKETCH OF EXCAVATION LOCATION: (ATTACHED)

NAME OF COMPETENT PERSON IN CHARGE:

EXCAVATION GREATER THAN 4FT DEEP: YES ____ NO ____ MAXIMUM DEPTH: _____

SPECIAL CONDITIONS:

CAL OSHA PERMIT RECEIVED: _____ CALL USA NOTIFIED: _____

SAFETY PLAN/TRENCH SHORING PLAN SUBMITTED: _____

U.G. FACILITY OWNERS NOTIFIED: _____ (DATE OF APPROVAL/NOTIFICATION TO BE ENTERED)

VERIFICATION OF UNDERGROUND UTILITIES

OWNER, CONTRACTOR AND CONSTRUCTION MANAGER HAVE REVIEWED ALL EXISTING DOCUMENTATION AND INFORMATION AVAILABLE TO

INCLUDE, BUT NOT LIMITED TO, PIPING DIAGRAMS; EXISTING UNDERGROUND UTILITIES; YARD DRAWINGS; AS BUILTS; ETC. CONTRACTOR

SHALL NOT PROCEED WITH EXCAVATION UNTIL ALL AVAILABLE INFORMATION HAS BEEN RESEARCHED AND REVIEWED BY CONSTRUCTION

MANAGER REPRESENTATIVE.

CONSTRUCTION MANAGER RESPONSIBLE FOR
REVIEW: _____

CONSTRUCTION MANAGER AUTHORIZATION TO PROCEED

CONTRACTOR IS AUTHORIZED TO PROCEED WITH THE WORK DESCRIBED ABOVE.

SPECIAL CONDITIONS OR PROCEDURES TO BE OBSERVED FOR THIS EXCAVATION:

AS BUILT DRAWINGS ARE REQUIRED FOR THE INSTALLATION OF ALL TEMPORARY OR PERMANENT UNDERGROUND PIPELINES, DUCT BANKS AND CABLES.

CONSTRUCTION MANAGER

DATE

**** END OF SECTION ****

SECTION 01 73 29

CUTTING AND PATCHING

PART 1 - GENERAL

1.01 SCOPE

- A. The CONTRACTOR shall provide labor and materials for cutting and patching required to perform the Work required under the Contract.

1.02 DEFINITION

- A. "Cutting-and-Patching" is defined to include the cutting and patching of nominally completed and previously existing concrete, steel, wood and miscellaneous metal structures; piping and pavement, in order to accommodate the coordination of Work, or the installation of other facilities or structures or to uncover other facilities and structures for access or inspection, or to obtain samples for testing, or for similar purposes.

1.03 REQUIREMENTS OF STRUCTURAL WORK

- A. Structural Work shall not be cut and patched in a manner resulting in a reduction of load-carrying capacity or load/deflection ratio.
- B. Prior to cutting-and-patching the following categories of Work, the CONTRACTOR shall obtain the CONSTRUCTION MANAGER's approval to proceed:
 - 1. Structural steel
 - 2. Miscellaneous structural metals, including equipment supports, stair systems and similar categories of work
 - 3. Structural concrete
 - 4. Foundation construction
 - 5. Timber and primary wood framing
 - 6. Bearing and retaining walls
 - 7. Structural decking
 - 8. Exterior curtain wall construction
 - 9. Pressurized piping, vessels and equipment

1.04 OPERATIONAL AND SAFETY LIMITATIONS

- A. The CONTRACTOR shall not cut-and-patch operational elements and safety-related components in a manner resulting in a reduction of capacities to perform in the manner intended or resulting in decreased operational life, increased maintenance, or decreased safety.

- B. Prior to cutting-and-patching the following categories of Work, the CONTRACTOR shall obtain the CONSTRUCTION MANAGER's approval to proceed:
 - 1. Sheeting, shoring and cross bracing
 - 2. Operating systems and equipment
 - 3. Water, moisture, vapor, air, smoke barriers, membranes and flashings
 - 4. Noise and vibration control elements and systems
 - 5. Control, communication, conveying and electrical wiring systems

1.05 VISUAL REQUIREMENTS

- A. The CONTRACTOR shall not cut-and-patch Work which is exposed on the exterior or exposed in occupied spaces, in a manner resulting in a reduction of visual qualities or resulting in substantial evidence of the cut-and-patch work, both as judged solely by the CONSTRUCTION MANAGER. The CONTRACTOR shall remove and replace work judged by the CONSTRUCTION MANAGER to have been cut-and-patched in a visually unsatisfactory manner.

1.06 APPROVALS

- A. Where prior approval of cutting-and-patching is required, the CONTRACTOR shall submit the request 15 working days in advance of time the Work will be performed. The request should include a description of why cutting-and-patching cannot reasonably be avoided, how it will be performed, how structural elements (if any) will be reinforced, products to be used, firms and tradesmen to perform the Work, approximate dates of the Work, and anticipated results in terms of structural, operational, and visual variations from the original Work.
- B. The CONTRACTOR shall also request approval to proceed prior to starting Work of this Section.

PART 2 - PRODUCTS

2.01 MATERIALS USED IN CUTTING-AND-PATCHING

- A. Except as otherwise indicated, the CONTRACTOR shall provide materials for cutting-and-patching which will result in equal-or-better Work than the Work being cut-and-patched, in terms of performance characteristics and including visual effects where applicable. The CONTRACTOR shall use material identical with the original materials where feasible.
- B. Materials shall comply with the requirements of the technical specifications wherever applicable.

PART 3 - EXECUTION

3.01 PREPARATION

- A. The CONTRACTOR shall provide adequate temporary support for the Work to be cut to prevent failure.
- B. The CONTRACTOR shall provide adequate protection of other Work during cutting-and-patching.

3.02 INSTALLATION

- A. The CONTRACTOR shall employ skilled tradesmen to perform cutting-and-patching. Except as otherwise indicated, the CONTRACTOR shall proceed with cutting-and-patching at the earliest feasible time and perform the Work promptly.
- B. The CONTRACTOR shall use methods least likely to damage the Work to be retained and Work adjoining.
 - 1. In general, where physical cutting action is required, the CONTRACTOR shall cut the Work with sawing and grinding tools, not with hammering and chopping tools. Openings through concrete work shall be core drilled.
 - 2. Comply with the requirements of technical specifications wherever applicable.
 - 3. Comply with the requirements of applicable sections where cutting-and-patching requires excavating and backfilling.
- C. The CONTRACTOR shall patch with seams which are as invisible as possible and comply with specified tolerances for the Work.
- D. The CONTRACTOR shall restore exposed seams of patched area; and, where necessary, extend finish restoration onto retained Work adjoining, in a manner which will eliminate evidence of patching.

**** END OF SECTION ****

THIS PAGE LEFT INTENTIONALLY BLANK

SECTION 01 77 00
CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.01 SCOPE

- A. This Section includes administrative and procedural requirements governing allowances.
 - 1. The CONTRACTOR shall participate in an inspection of the work after final completion and within the one year guarantee period for defective workmanship and materials. The CONTRACTOR shall replace or repair any defective work in a manner satisfactory to the CONSTRUCTION MANAGER.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 CORRECTION OF DEFECTIVE WORK

- A. Approximately one year after final acceptance, CONSTRUCTION MANAGER will make arrangements with OWNER and CONTRACTOR for a post final inspection and will send a written notice to said parties informing them of the date and time of the inspection.
- B. Inspection shall include, but not be limited to latent defects in coatings, concrete surfaces and joints.
- C. After the inspection, CONSTRUCTION MANAGER will inform CONTRACTOR of any corrections required and the time for completion of replacement or repairs.
- D. When the corrections have been satisfactorily completed, CONSTRUCTION MANAGER will forward acknowledgment to OWNER and CONTRACTOR.

**** END OF SECTION ****

THIS PAGE LEFT INTENTIONALLY BLANK

SECTION 03 01 30.71

REHABILITATION OF CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.01 SCOPE

- A. The WORK of this Section includes the patching and overlay and subsequent replacement of prepared, exterior concrete surfaces, vertical, horizontal and overhead, with cementitious, high-strength (7,000 psi @ 28 days minimum) repair mortar including, including the partial-depth and the full depth repairs, hence referred to as repair mortar, including all appurtenant work related to this repair surface, complete. The WORK of this Section also includes the patching of interior and exterior vertical, horizontal or overhead surfaces with a cementitious repair mortar and all appurtenant work, complete. The WORK of this section also includes independent third-party inspection provided by the CONTRACTOR.

1.02 RELATED SECTIONS

- A. The Work of the following Sections apply to Work of this Section. Other Sections of the Specifications, not referenced below, shall also apply to the extent required for proper performance of the Work.
- | | | | |
|----|---------|----------|-------------------------------------|
| 1. | Section | 01 25 00 | Substitution Procedures |
| 2. | Section | 01 33 00 | Submittal Procedures |
| 3. | Section | 03 20 00 | Concrete Reinforcing |
| 4. | Section | 03 64 00 | Injection Grouting |
| 5. | Section | 09 01 90 | Maintenance of Painting and Coating |

1.03 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

- A. The Work of this Section shall comply with the current editions of the following codes as adopted by the City of San Diego Municipal Code:
1. California Building Code, latest edition.
- B. Except as otherwise indicated, the current editions of the following apply to the Work of this Section:
1. References herein to "SSPC Specifications" or "SSPC" shall mean the published standards of SSPC, the Society for Protective Coatings (now combined with NACE International under the new umbrella organization Association for Materials Protection and Performance (AMPP)).
 2. References herein to "NACE" shall mean the published standards of the NACE International (now combined with SSPC under the new umbrella organization Association for Materials Protection and Performance (AMPP)).
 - 3.

- C. Except as otherwise indicated, the current editions of the following apply to the Work of this Section:
1. ASTM C33 Concrete Aggregates
 2. ASTM C 40 Test Method for Organic Impurities in Fine Aggregates for Concrete
 3. ASTM C 42 Method of Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
 4. ASTM C 87 Test Method for Effect of Organic Impurities in Fine Aggregate on Strength of Mortar
 5. ASTM C 136 Method for Sieve Analysis of Fine and Coarse Aggregates
 6. ASTM C 150 Specification for Portland Cement
 7. ASTM C 171 Specification for Sheet Materials for Curing Concrete
 8. ASTM C 1240 Specification for Silica Fume for Use as a Mineral Admixture in Hydraulic Cement Concrete, Mortar, and Grout
 9. ASTM C 685 Concrete Made by Volumetric Batching and Continuous Mixing
 10. ASTM E 329 Inspection and Testing Agencies for Concrete, Steel, and Bituminous Materials as Used in Construction

1.04 SUBMITTALS

- A. General
1. Submittals shall be furnished in accordance with Section 01 33 00, Submittal Procedures, unless indicated otherwise below.
- B. Submittals shall include the following information and be submitted at least 30 days before protective coating work:
1. Test reports and material proportions in mix design of proposed repair material, product data sheets, Material Safety Data Sheets (MSDS), technical and performance information that demonstrates compliance with the system performance and material requirements.
 2. Manufacturer certifications of CONTRACTOR certifying that applicator is approved to apply the repair material in this Section.
 3. Standard of Reference Sample (mockup) Panels. Submit panels for inspection and quality acceptance within 30 days after receipt of notice to proceed.
 4. Repair Mortar Reference Documentation: For the proposed repair mortar, submitted as an equal, the CONTRACTOR shall submit reference documentation from the manufacturer of a minimum of five (5) similar installations, in potable water applications, which have been in service for more than five (5) years. Reference documentation shall include installation location/details, installation date, current owner contact information, and contractor/applicator contact information.

5. Repair mortar manufacturer's instructions and requirements for surface preparation and application:
 - a. Mortar repair material manufacturer's data sheet for each product proposed, including statements on the suitability of the material for the intended use.
 - b. Technical and performance information that demonstrates compliance with the system performance and material requirements.
 - c. Mortar repair material manufacturer's instructions and recommendations on surface preparation and application.
 - d. Proposed application techniques including proof of the acceptability of the proposed technique for each coating.
 - e. Colors available for each product (where applicable).
 - f. Compatibility of shop and field applied coatings (where applicable).
 - g. Material Safety Data Sheet for each product used.
 - h. Qualification Data: Approved Installer Training Certificates from manufacturer. Installer's workmen engaged in the rehabilitation of concrete shall have satisfactorily completed a program of instruction in the methods of rehabilitation of concrete utilizing the methods and materials contained in this specification.
 - i. Material Certificates: For each type of product indicated, provide a signed Certificate of Compliance from an approved manufacturer from an independent testing laboratory that the proposed products, meet or exceed the specified performance criteria, tested in accordance with the specified test standards.
 - j. Detailed hot and cold weather application procedures. Compatibility of shop and field applied coatings (where applicable).
 6. Warranty in a written statement from the manufacturer of the repair mortar, signed by an officer of the company, as warranty against defects in the material and warranty of workmanship by the CONTRACTOR against defects in the applied repair mortar for a period of one (1) year from the date of substantial completion.
 7. Pre-Installation Conference: A mandatory meeting prior to concrete repair will discuss installation techniques and proper use of materials. This conference shall include the CONTRACTOR, CONSTRUCTION MANAGER and the OWNER and include any subcontractors involved with the work.
- C. Product Substitution: The specified concrete rehabilitation material, repair mortar, is the minimum standard of quality for this project. Equivalent materials of other manufacturers may be substituted only by approval of Engineer and within the provisions of Section 01 25 00, Substitution Procedures and Section 01 33 00, Submittal Procedures. Requests for material substitutions shall be in accordance with requirements of the project Specifications and the following requirements:
1. Manufacturers of "or equal" products shall provide direct property comparison with the materials specified herein in addition to complying with

all other requirements of these Specifications. "Or equal" products shall employ the same generic materials and system components as the corrosion protection lining specified and must meet or exceed the physical and chemical properties of the named repair mortar

2. "Or equal" products shall provide equivalent performance as the specified corrosion protection lining. It shall be the CONTRACTOR's responsibility to demonstrate, via written response and certified backup data or references, clearly in the substituted material data that each relevant chemical or physical property of named material are met or exceeded.
3. Bidders desiring to use concrete rehabilitation materials other than those specified shall submit proposed system with their proposal at the time of bid, together with the information required herein.
4. Bidders intending to propose an "or equal" product shall do so at the time of the bid and shall provide reference documentation from the proposed manufacturer of the product(s) at the time of bid.

1.05 QUALITY CONTROL

- A. Manufacturing qualifications
 1. The manufacturer of the specified product shall be ISO 9001 certified and should have a quality control program that includes internal quality control audits of manufacturing locations on an annual basis.
- B. Furnish evidence to CONSTRUCTION MANAGER that CONTRACTOR conforms to specification 01 45 00, Quality Control.

1.06 OWNER'S MANUAL

- A. The following shall be included in the OWNER'S MANUAL in compliance with Section 01 33 00:
 1. Certificates from manufacturers or suppliers certifying that the materials supplied conform to the requirements of the Contract Documents.

1.07 PRECONSTRUCTION TESTING/TEST PANELS

- A. The CONTRACTOR, OWNER, CONSTRUCTION MANAGER and independent third party testing personnel shall attend pre-construction training, provided at the CONTRACTOR's expense, provided by the manufacturer's representative of the approved mortar repair material.
- B. Standard of Reference Sample Panels: The CONTRACTOR shall prepare two, step-by-step sample procedure reinforced concrete sample (mockup panel) panels which will serve as the standard of workmanship for the duration of the Work. The asperity and aggregate profile shall be constructed to represent the current, existing aggregate profile of the Basin No. 1. In lieu of constructed test panels, the OWNER may accept using the existing Basin No. 1 as the test panels provided the CONTRACTOR can demonstrate each step of the proposed rehabilitation to the satisfaction of the OWNER. Test panels must be accepted by the OWNER or the CONSTRUCTION MANAGER. Upon acceptance, the panels shall be used during quality acceptance as a standard of application and procedure workmanship.

Provide one vertical panel a minimum of 50 square feet in area which shall be erected in vertical position for layup of repair coats. Provide one floor mockup panel a minimum of 100 square feet in area. The sample panels and workmanship shall illustrate as a mockup panel the following conditions:

1. Existing surface profile and surface preparation using Basin No. 1 profile as standard;
2. Scrub coat application;
3. Cementitious repair mortar application demonstrating, flatness, surface preparation, holiday and bughole free condition of repaired surface prior to protective coating;
4. Any imperfections that may exist after the repair mortar shall be repaired with a recommended filler by the manufacturer.
5. Final protective coating (reference Section 09 01 90).

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Cementitious repair mortar:
 1. The materials shall be non-combustible, both before and after cure.
 2. The materials shall be supplied in a factory-proportioned unit.
 3. The repair mortar must be placeable from 1/8" to 1-1/2" in depth in one or multiple lift for vertical applications.
- B. Water: Water for the repair mortar shall be furnished by the OWNER but metered and paid for by the CONTRACTOR. All water shall be clean and free from objectionable quantities of organic matter, alkali, salts, and other impurities which might reduce the strength, durability, or other quality of the cementitious repair modified mortar.
- C. Reinforcement: Steel reinforcement shall conform to the requirements of Section 03 20 00.

2.02 PERFORMANCE CRITERIA

- A. Typical Properties of the cementitious repair mortar:
 1. Working Time: Approximately 15-30 minutes at 75°F (24°C), & 50% R.H.
 2. Finishing Time: Material shall be finished as soon as it is applied to the surface or as recommended by the manufacturer.
 3. Color: gray
- B. Typical Properties of the cured cementitious repair mortar:
 1. Compressive Strength
 - a. 24 hours: 3,000 psi min.
 - b. 7 days: 4,000 psi min.

- c. 28 days: 6,000 psi min.
2. Splitting Tensile Strength (ASTM C-496)
 - a. 28 days: 900 psi
3. Density (ASTM C 188): 132 pcf min. (2.2 kg/l)
4. The cement mortar shall not produce a vapor barrier.

2.03 MANUFACTURERS

- A. The CONTRACTOR shall provide products of the type indicated shall be manufactured by one of the following (or approved equal):
 1. Cementitious, high-strength (7,000 psi @ 28 days minimum) shrinkage compensated pre-proportioned, cementitious repair mortar
 - a. Tnemec MortarCrete Series 217, SikaTop 123 Plus, or approved equal.

PART 3 - EXECUTION

3.01 GENERAL

- A. Cementitious repair mortar for concrete shall be used on the work where shown; and, where not shown, may be used only with written approval of the CONSTRUCTION MANAGER.

3.02 SURFACE PREPARATION FOR REPAIR MORTAR

- A. Prior to the application of the repair mortar, all surfaces of concrete to be filled or coated shall be clean and dry to meet NACE6/SSPC-SP13 standards. Concrete surface needs to have a minimum of an ICRI-CSP6 profile for proper mechanical interlock of the mortar.
- B. Must be clean and free of oil, grease and other contaminants. Always take precautions to prohibit the surface from becoming contaminated prior to product application.

3.03 MIXING AND APPLICATION

- A. Mechanically mix in an appropriate sized mortar mixer or with a mud paddle and low speed (400-600 rpm) drill. Mix only that amount of material that can be placed in 10-15 minutes. Do not retemper material.
- B. Placement procedure: At the time of application, the substrate shall be saturated surface dry (SSD, the concrete substrate is darkened by water but there is no pooling of water on the concrete). Mortar must first be physically scrubbed into the substrate to ensure intimate contact and to help prevent sloughing or sagging of repair materials on vertical and overhead surfaces. While the scrub coat is still plastic, force material against edge of repair, working toward center. After filling, consolidate then screed. Allow mortar to set to desired stiffness then finish with trowel for smooth surface. Wood float or sponge float for a rough surface. Areas where the depth of the repair area to sounds concrete is greater than 1-1/2", the

repair shall be made in lifts of 1-1/2" maximum thickness. The top surface of each lift shall be scored to produce a rough surface for the next lift. The preceding lift shall be allowed to reach final set before applying fresh material. The fresh mortar must be scrubbed into the preceding lift.

- C. Apply the cementitious mortar in accordance to manufacturer's recommended procedures.
- D. Material needs to be applied at a minimum 1/4" thickness above any existing concrete or exposed aggregate. Contractor shall utilized a gauging system to meet this minimum required thickness and specified tolerances for flatness, plumb and level (see Part H). Apply with adequate pressure before the scrub coat dries. Thoroughly consolidate the repair material into the corners of patch and around any exposed reinforcement steel in the repair zone. Full encapsulation of the reinforcement and intimate contact with substrate is important for long-term durability.
- E. When used for patching, the edges of the patch should be sawcut perpendicular to the surface to a depth of at least 1/4 inch (6 mm). Break out the complete repair area to a minimum depth of 1/4 inch (6 mm) up to the sawed edge to prevent feather edging.
- F. Finish by striking off with a straight edge and close with the recommended concrete finishing tools, (Steel concrete finishing trowels, broad knives, rubber floats, wooden floats or plastic floats) as conditions allow, to create a smooth, even surface.
- G. Areas where the depth of the repair area to sounds concrete is greater than 1-1/2" for the SikaTop 123 Plus, the repair shall be made in lifts of 1-1/2" maximum thickness. The top surface of each lift shall be scored to produce a rough surface for the next lift. The preceding lift shall be allowed to reach final set before applying fresh material. The fresh mortar must be scrubbed into the preceding lift.
- H. Construction tolerances: Set and maintain mortar screeds and perform finishing operations so as to ensure that the completed Work is within the tolerances specified herein. Finished surface shall achieve the wall thickness and finished floor elevation of the original wall thickness and finished floor elevations from the record drawings entitled "Lower Otay Water Filtration Plant Expansion", dated 1986, James M. Montgomery. Surface defects and irregularities are defined as finishes and are to be distinguished from tolerances. Tolerance is the specified permissible variation from lines, grades, or dimensions shown. Where tolerances are not stated in the Specifications, permissible deviations will be in accordance with ACI 117.

The following construction tolerances are hereby established and apply to finished walls and slab unless otherwise shown:

<u>Item</u>	<u>Tolerance</u>
Variation of the constructed linear outline from the established position in plan.	In 10 feet: 1/8-inch; In 20 feet or more: 1/4-inch
Variation from the level or from the grades	In 10 feet: 1/8-inch;

shown.	In 20 feet or more: 1/4-inch
Variation from the plumb	In 10 feet: 1/8-inch; In 20 feet or more: 1/4-inch
Variation in the thickness of slabs and walls.	Minus 1/8-inch; Plus 1/8-inch
Variation in the locations and sizes of slabs and wall openings	Plus or minus 1/4-inch

3.04 JOINTS

- A. Construction Joints: Particular care shall be given to formation of construction joints. They shall be sloped to a thin edge and the edge shall be thoroughly wetted before adjacent section of concrete is placed. No square joints will be allowed. The location of all construction joints is apparent in the as-built drawings and can be confirmed by the as-built condition of Basin No. 1 ("Lower Otay Water Filtration Plant Expansion", 1986). Construction joints, as well as expansion joints, are to be matched. All other joints shall be acceptable to the CONSTRUCTION MANAGER. Particular care shall be given to the existing Basin expansion and construction joints. Placement of cementitious repair mortar shall be designed to consider the location of joints, work stoppage and starting each day and required movement. Material may not be applied with a feather edge.
- B. Formed Joints: All formed joints shall be constructed as detailed, at the locations shown.

3.05 CURING

- A. Begin water curing as soon as the surface has lost its moist sheen. Concrete rehabilitation mortar shall be damp cured for at least 7 days, or manufacturer recommended time, after placing. Ambient conditions such as temperature and humidity shall be taken into account when placing. Curing compounds are not an acceptable substitute for continuous damp curing with spray and curing blankets.
- B. When required by the CONSTRUCTION MANAGER the CONTRACTOR shall provide longer curing times or supplemental methods for curing concrete in structural members, and no additional payment will be allowed therefor.

3.06 TOPCOATING

- A. Cementitious repair mortar must be mechanically prepared in accordance with SSPC-SP13/NACE No. 6, ICRI-CSP 4-5 surface profile to ensure complete removal of any weak upper laitance layer and creates the necessary surface amplitude for topcoating with System No. 7 - Epoxy, Concrete per Section 09 01 90.

3.07 CLEANUP

- A. Upon completion of the Work indicated in this Section, the CONTRACTOR shall remove all forming, shoring, rebound, excess material, and protective materials from the project site.

3.08 FIELD QUALITY CONTROL

- A. Testing Laboratory: The CONTRACTOR shall engage an Independent Testing Laboratory (third-party testing) who shall perform the following quality control tests at the CONTRACTOR's expense. This work shall be included in the CONTRACTOR's bid price.. The Contractor shall prepare samples as specified by the Independent Testing Laboratory.
 - 1. Patching Mortar, Concrete Repair Mixes, Field Mixed: For each product, a minimum of three (3) randomly selected samples tested for compressive strength according to ASTM C 109 and/or ASTM C39 for every 1000 s.f. of patch placed, but not less than three (3) samples for each day's work. For both test methods, ASTM C109 and ASTM C39, take enough samples to test compressive strengths at 7 days and at 28 days. Test samples shall achieve a minimum compressive strength of 5,600 psi at 7 days and 7,000 psi at 28 days
 - 2. Evaluation and acceptance of repairs per ACI 301.
- B. If testing performed by the Independent Testing Laboratory indicates that the materials as installed do not meet the specified performance requirements, the CONTRACTOR shall perform additional testing, at his own expense as required to determine the quality of the installed product, or, if required, replace the defective product at his own expense.

**** END OF SECTION ****

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 03 20 00
CONCRETE REINFORCING

PART 1 - GENERAL

1.01 SCOPE

- A. The CONTRACTOR shall provide concrete reinforcement steel, welded wire fabric, couplers, concrete inserts, wires, clips, supports, chairs, spacers, and other accessories, complete, all in accordance with the Contract Documents.
- B. Work Included in this Section. Principal items are:
 - 1. Furnishing and placing bar and mesh reinforcing for cast-in-place concrete.
 - 2. Furnishing reinforcing steel bars for masonry, including delivery to the site.
 - 3. Submittals.

1.02 RELATED SECTIONS

- A. The Work of the following Sections apply 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 03 01 30.71 Rehabilitation of Cast-in-Place Concrete
 - 2. Section 03 64 00 Injection Grouting
 - 3. Section 07 01 90.71 Joint Sealant Rehabilitation
 - 4. Section 09 01 90 Maintenance of Painting and Coating

1.03 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

- A. Except as otherwise indicated in this Section of the Specifications, the CONTRACTOR shall comply with the latest adopted edition of the Standard specifications for Public Works Construction (SSPWC), together with the latest adopted editions of the City of San Diego Supplement Amendments.
- B. The current edition of the California Building Code (CBC) as adopted by the City of San Diego Municipal Code.
- C. Commercial Standards (Current Edition):
 - 1. ACI 315 Details and Detailing of Concrete Reinforcement.
 - 2. ACI 318 Building Code Requirements for Structural Concrete.
 - 3. CRSI MSP Concrete Reinforcing Steel Institute Manual of Standard Practice.
 - 4. WRI Manual of Standard Practice for Welded Wire Fabric.

5. AWS D1.4 Structural Welding Code - Reinforcing Steel.
- D. ASTM Standards in Building Codes (Current Edition):
1. ASTM A 82 Specification for Steel Wire, Plain, for Concrete Reinforcement.
 2. ASTM A 185 Specification for Welded Steel Wire Fabric, Plain, for Concrete Reinforcement.
 3. ASTM A 615 Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
 4. ASTM A 706 Specification for Low-Alloy Steel Deformed Bars for Concrete Reinforcement.
 5. ASTM A 775 Specification for Epoxy-Coated Reinforcing Steel Bars.

1.04 SUBMITTALS

- A. The CONTRACTOR shall furnish shop bending diagrams, placing lists, and drawings of all reinforcement steel before fabrication in accordance with the requirements of Section 01 33 00, Submittal Procedures.
- B. Details of the concrete reinforcement steel and concrete inserts shall be submitted at the earliest possible date after receipt of the Notice to Proceed. Details of reinforcement steel for fabrication and erection shall conform to ACI 315 and the requirements indicated. The shop bending diagrams shall show the actual lengths of bars, to the nearest inch, measured to the intersection of the extensions (tangents for bars of circular cross section) of the outside surface. The shop drawings shall include bar placement diagrams which clearly indicate the dimensions of each bar splice.

1.05 QUALITY ASSURANCE

- A. If requested by the CONSTRUCTION MANAGER, the CONTRACTOR shall furnish samples from each heat of reinforcement steel delivered in a quantity adequate for testing. Costs of initial tests will be paid by the OWNER. Costs of additional tests due to material failing initial tests shall be paid by the CONTRACTOR.

PART 2 - PRODUCTS

2.01 MATERIAL REQUIREMENTS

- A. Materials which may remain or leave residues on or within the concrete shall be classified as acceptable for potable water use by the Environmental Protection Agency within 30 days of application or use.

2.02 REINFORCEMENT STEEL

- A. Reinforcement steel for all cast-in-place reinforced concrete construction shall conform to the following requirements:
 - 1. Bar reinforcement shall conform to the requirements of ASTM A 615 for Grade 60 Billet Steel Reinforcement or as otherwise indicated.
 - 2. All welded reinforcement, specifically detailed or otherwise indicated, shall be low-alloy grade 60 deformed bars conforming to the requirements of ASTM A 706.
 - 3. Welded wire fabric reinforcement shall conform to the requirements of ASTM A 185 and the details indicated; provided, that welded wire fabric with longitudinal wire of W4 size wire and smaller shall be either provided in flat sheets or in rolls with a core diameter of not less than 10 inches; and provided further, that welded wire fabric with longitudinal wires larger than W4 size shall be provided in flat sheets only.
 - 4. Spiral reinforcement shall be cold-drawn steel wire conforming to the requirements of ASTM A 82.
 - 5. Tie wire shall be Annealed Steel, 14 gauge minimum.
- B. Accessories:
 - 1. Accessories shall include all necessary chairs, slab bolsters, concrete blocks, tie wires, dips, supports, spacers, and other devices to position reinforcement during concrete placement. All bar supports shall meet the requirements of the CRSI Manual of Standard Practice, Chapter 3, including special requirements for supporting epoxy coated reinforcing bars. Wire bar supports shall be CRSI Class 1 for maximum protection with a 1/8-inch minimum thickness of plastic coating which extends at least 2-inch from the concrete surface. Plastic shall be gray in color.
 - 2. Concrete blocks (dobies), used to support and position reinforcement steel, shall have the same or higher compressive strength as specified for the concrete in which it is located. Wire ties shall be embedded in concrete block bar supports.
- C. Epoxy coating, bonding agent and anti-corrosion for reinforcing and accessories, where indicated and where repaired or exposed rebar requires protection, shall be Sika Armatec 110 EpoCem, an epoxy-modified cementitious coating and bonding agent for fresh mortar patching, or APPROVED EQUAL.

2.03 MECHANICAL COUPLERS

- A. Mechanical couplers shall not be used.

2.04 WELDED SPLICES

- A. Welded splices shall not be used.

2.05 EPOXY GROUT

- A. Epoxy for grouting reinforcing bars shall be specifically formulated for such application, for the moisture condition, application temperature, and orientation of the hole to be filled. Epoxy grout shall be a two or three component, 100% solids, epoxy grout, Sikadur 32 Hi-Mod, or approved equal.

2.06 EPOXY BONDING AGENTS OR EPOXY ADHESIVE

- A. Epoxy coating, bonding shall be a 2-component, 100% solids, solvent-free, moisture-tolerant, high-modulus, high strength, structural epoxy paste adhesive, Sikadur®-31 Hi-Mod Gel, or approved equal. Epoxy shall conform to the current ASTM C-881.

PART 3 - EXECUTION

3.01 GENERAL

- A. All reinforcement steel, welded wire fabric, couplers, and other appurtenances shall be fabricated, and placed in accordance with the requirements of the California Building Code and the supplementary requirements indicated herein.

3.02 FABRICATION AND DELIVERY

- A. The CONTRACTOR shall conform to CRSI MSP, Chapters 6 and 7, except as otherwise indicated or specified. The CONTRACTOR shall bundle reinforcement and tag with suitable identification to facilitate sorting and placing, and transport and store at site so as not to damage material. The CONTRACTOR shall keep a sufficient supply of tested, approved, and proper reinforcement at site to avoid delays.
- B. Bending and Forming: The CONTRACTOR shall bend bars of indicated size and accurately form in accordance with the requirements of ACI 315 and ACI 318 to shapes and lengths indicated on drawings and required by methods not injurious to materials. The CONTRACTOR shall not heat reinforcement for bending. Bars with kinks or bends not scheduled will be rejected.
- C. Fabricating tolerance: All fabrication of reinforcing bars shall meet the requirements of ACI 117.

3.03 PLACING

- A. Reinforcement steel shall be accurately positioned and shall be supported and wired together to prevent displacement, using annealed iron wire ties or suitable clips at intersections. All reinforcement steel shall be supported by concrete, plastic or metal supports, spacers or metal hangers which are strong and rigid enough to prevent any displacement of the reinforcement steel. Where concrete is to be placed on the ground, supporting concrete blocks (or dobies) shall be used, in sufficient numbers to support the bars without settlement, but in no case shall such support be continuous. All concrete blocks used to support reinforcement

steel shall be tied to the steel with wire ties which are embedded in the blocks. For concrete over formwork, the CONTRACTOR shall furnish concrete, metal, plastic, or other acceptable bar chairs and spacers.

- B. Limitations on the use of bar support materials shall be as follows:
 - 1. Concrete Dobies: Permitted at all locations except where architectural finish is required.
 - 2. Wire Bar Supports: Permitted only at slabs over dry areas, interior dry wall surfaces, and exterior wall surfaces.
 - 3. Plastic Bar Supports: Permitted at all locations except on grade.
- C. Tie wires shall be bent away from the forms in order to provide the specified concrete coverage.
- D. Bars additional to those shown which may be found necessary or desirable by the CONTRACTOR for the purpose of securing reinforcement in position shall be provided by the CONTRACTOR at no additional cost to the OWNER.
- E. Unless otherwise specified, reinforcement placing tolerances shall be within the limits specified in ACI 318 except where in conflict with the requirements of the CBC.
- F. Bars may be moved as necessary to avoid interference with other reinforcement steel, conduits, or embedded items. If bars are moved more than one bar diameter, or enough to exceed the above tolerances, the resulting arrangement of bars shall be subject to the approval of the CONSTRUCTION MANAGER.
- G. Welded wire fabric reinforcement placed over horizontal forms shall be supported on slab bolsters. Slab bolsters shall be spaced not more than 30 inches on centers, shall extend continuously across the entire width of the reinforcement mat, and shall support the reinforcement mat in the plane indicated.
- H. Welded wire fabric placed over the ground shall be supported on wired concrete blocks (dobies) spaced not more than 3 feet on centers in any direction. The construction practice of placing welded wire fabric on the ground and hooking into place in the freshly placed concrete shall not be used.
- I. Epoxy coated reinforcing bars shall be stored, transported, and placed in such a manner as to avoid chipping of the epoxy coating. Non-abrasive slings made of nylon and similar materials shall be used. Specially coated bar supports shall be used. All chips or cracks in the epoxy coating shall be repaired with a compatible epoxy repair material prior to placing concrete.
- J. Accessories supporting reinforcing bars shall be spaced such that there is no deflection of the accessory from the weight of the supported bars. When used to space the reinforcing bars from wall forms, the forms and bars shall be located so that there is no deflection of the accessory when the forms are tightened into position.

3.04 SPLICES

- A. Splicing shall be in accordance with ACI-318, unless otherwise noted on Drawings.
- B. Vertical Bars. Except as specifically detailed or otherwise indicated, splicing of vertical bars in concrete is not permitted, except at the indicated or approved horizontal construction joints or as otherwise specifically detailed.
- C. Horizontal Bars. Except as specifically detailed or otherwise indicated, splicing of horizontal bars in concrete is not permitted.
- D. Mechanical Couplers. Use of mechanical couplers is not permitted.
- E. Welding: Welding of reinforcing bars is not permitted.

3.05 ADDITIONAL REINFORCING

- A. The CONTRACTOR shall provide additional reinforcing bars at sleeves and openings as indicated on Drawings.

3.06 WELDED WIRE MESH

- A. The CONTRACTOR shall install necessary supports and chairs to hold the wire mesh in place during concrete pours. The CONTRACTOR shall straighten mesh to lay in a flat plane and bend mesh as shown or required to fit work. The CONTRACTOR shall provide laps of no less than one complete mesh, unless otherwise detailed, and shall tie every other wire at laps. Roll mesh is not acceptable.

3.07 EMBEDMENT OF DRILLED REINFORCING STEEL DOWELS

- A. Hole Preparation:
 - 1. The hole diameter shall be as recommended by the epoxy manufacturer but shall be no larger than 0.25 inch greater than the diameter of the outer surface of the reinforcing bar deformations.
 - 2. The depth of the hole shall be as recommended by the epoxy manufacturer to fully develop the bar but shall not be less than 12 bar diameters, unless noted otherwise.
 - 3. The hole shall be drilled by methods which do not interfere with the proper bonding of epoxy.
 - 4. Existing reinforcing steel in the vicinity of proposed holes shall be located prior to drilling. The location of holes to be drilled shall be adjusted to avoid drilling through or nicking any existing reinforcing bars.
 - 5. The hole shall be blown clean with clean, dry compressed air to remove all dust and loose particles.
 - 6. Epoxy shall be injected into the hole through a tube placed to the bottom of the hole. The tube shall be withdrawn as epoxy is placed but kept immersed to prevent formation of air pockets. The hole shall be filled to a

depth that insures that excess material will be expelled from the hole during dowel placement.

7. Dowels shall be twisted during insertion into the partially filled hole so as to guarantee full wetting of the bar surface with epoxy. The bar shall be inserted slowly enough to avoid developing air pockets.

**** END OF SECTION ****

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 03 64 00
INJECTION GROUTING

PART 1 - GENERAL

1.01 SCOPE

- A. The Work of this Section includes the repair of cracks in concrete by the injection of an epoxy resin adhesive.

1.02 RELATED SECTIONS

- A. The Work of the following Sections apply 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 03 01 30.71 Rehabilitation of Cast-in-Place Concrete
 - 2. Section 07 01 90.71 Joint Sealant Rehabilitation
 - 3. Section 09 01 90 Maintenance of Painting and Coating

1.03 SPECIFICATIONS AND STANDARDS

- A. The publications listed below form part of this specification to the extent referenced and are referred to in the text by the basic designation only. Reference shall be made to the latest edition of said standards unless otherwise called for.
 - 1. ASTM D 695 Test Method for Compressive Properties of Rigid Plastics.

1.04 REPAIR CRITERIA

- A. Cracks in concrete at least 0.02 inches in size shall be repaired.

1.05 QUALIFICATIONS

- A. Epoxy injection shall be performed by a certified applicator.
- B. Contractor's/Subcontractor's operator engaged in the epoxy injection process shall have satisfactory operator experience in the methods of restoring concrete structures utilizing the specific epoxy injection process indicated. Operator's experience shall include previous repairs of cracked or damaged concrete structures, the technical knowledge of correct material selection and use, and the operation, maintenance and troubleshooting of equipment.

PART 2 - PRODUCTS

2.01 EPOXY RESIN ADHESIVE FOR INJECTION

- A. Epoxy adhesive grout shall be a 100 percent solids 2-part water insensitive low-viscosity epoxy resin system. Epoxy shall be suitable for grouting both dry and damp cracks. Epoxy shall develop a minimum tensile strength (ASTM D695) of 6,000 psi and a minimum compressive strength of 8,000 psi. Epoxy shall be Sikadur 35, Hi-Mod LV by Sika Corporation, Tnemec Series 215, or equivalent.

2.02 SURFACE SEAL

- A. The surface seal material is that material used to confine the injection adhesive in the fissure during injection and cure.
- B. The surface seal material shall have adequate strength to hold injection fittings firmly in place and to resist injection pressures adequately to prevent leakage during injection.
- C. The material shall be from the same manufacturer of the epoxy resin adhesive and be of a compatible material.

2.03 EQUIPMENT FOR INJECTION

- A. The equipment used to meter and mix the two injection adhesive components and inject the mixed adhesive into the crack shall be portable, positive displacement type pumps with interlock to provide positive ratio control of exact proportions of the two components at the nozzle. The pumps shall be electric or air powered and shall provide in-line metering and mixing.
- B. The injection equipment shall have automatic pressure control capable of discharging the mixed adhesive at any pre-set pressure up to 200 psi plus or minus 5 psi and shall be equipped with a manual pressure control override.
- C. The injection equipment shall have the capability of maintaining the volume ratio for the injection adhesive prescribed by the manufacturer of the adhesive within a tolerance of plus or minus 5 percent by volume at any discharge pressure up to 200 psi.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Surface adjacent to cracks or other areas of application shall be cleaned of dirt, dust, grease, oil, efflorescence or other foreign matter which may be detrimental to the integrity of the bond between the epoxy and the injection surface. Acids and corrosives shall not be permitted.
- B. Grind surface application area to expose aggregate.

- C. Entry ports shall be provided along the crack at intervals of not more than the thickness of the concrete being repaired. Ports shall be compatible with pressure injection equipment.
- D. Surface seal material shall be applied to the face of the crack between the entry ports. For through cracks, surface seal shall be applied to both faces.
- E. Enough time for the surface seal material to gain adequate strength shall pass before proceeding with the injection.

3.02 EPOXY INJECTION

- A. Injection of epoxy adhesive shall begin at lower entry port and continue until there is an appearance of epoxy adhesive at the next entry port adjacent to the entry port being pumped.
- B. When epoxy adhesive travel is indicated by appearance at the next adjacent port, injection shall be discontinued on the entry port being pumped, and epoxy injection shall be transferred to the next adjacent port where epoxy adhesive has appeared.
- C. Epoxy adhesive injection shall be performed continuously until cracks are completely filled.
- D. If port to port travel of epoxy adhesive is not indicated, the work shall immediately be stopped and the Engineer of Record notified.

3.03 FINISHING

- A. When cracks are completely filled, epoxy adhesive shall be cured to sufficient time to allow removal of surface seal without any draining or runback of epoxy material from cracks.
- B. Surface seal material and injection adhesive runs or spills shall be removed from concrete surfaces.
- C. The face of the crack shall be finished flush to the adjacent concrete showing no indentations or protrusions caused by the placement of entry ports.

3.04 PRESSURE TEST

- A. The mixing head of the injection equipment shall be connected and the equipment run until clear uniformly mixed material flows into the purge pail. The operator shall engage the equipment shut-off nozzle valve and subsequently bump the on-off switch while monitoring pressure on psi gauge until the pressure reaches 200 psi. Pressure gauge shall be monitored for one minute. If pressure is maintained between 190-200 psi, check valves shall be considered to be functioning properly and the injection may proceed. If pressure drops below 190 psi, Contractor shall be required to have new seals installed on the check valves and the equipment shall be subsequently retested.

- B. The pressure test shall be run for each injection unit at the beginning and after meal break of every shift that the unit is used in the work of crack repair.
- C. The adequacy and accuracy of the equipment shall be solely the responsibility of the Contractor.

3.05 RATIO TEST

- A. The epoxy mixture ratio shall be monitored continuously while injecting by placing a strip of masking tape on the sides of the A and B reservoirs full height. After filling reservoirs, the A and B levels shall be marked and monitored while running injection machine into purge pail for a period of one minute.
- B. The ratio test shall be run for each injection unit at the beginning and after meal break of every shift that the unit is used in the work of crack repair.

3.06 PROOF OF RATIO AND PRESSURE TEST

- A. At all times during the course of the work the Contractor shall keep complete and accurate records available to the Engineer of the pressure and ratio tests specified above.
- B. In addition, the Engineer at any time without prior notification of the Contractor, may request the Contractor to conduct the tests specified above in the presence of the Engineer.

**** END OF SECTION ****

SECTION 05 05 19

POST-INSTALLED CONCRETE ANCHORS

PART 1 - GENERAL

1.01 SCOPE

A. The CONTRACTOR shall provide post-installed concrete anchors and appurtenant work, completed, in accordance with the Contract Documents.

B. DEFINITIONS

1. Corrosive Area: Containment area or area exposed to delivery, storage, transfer, or use of chemicals.
2. Exterior Area: Location not protected from weather by a building or other enclosed structure to include buried roof structures.
3. Interior Dry Area: Location inside building or structure where floor is not subject to liquid spills or wash down, and where wall or roof slab is not common to a water-holding or earth-retaining structure.
4. Interior Wet Area: Location inside building or structure where floor is sloped to floor drains or gutters and is subject to liquid spills or wash down, or where wall, floor, or roof slab is common to a water-holding or earth-retaining structure.
5. Submerged: Location at or below top of wall of open water-holding structure, such as a basin or channel, or wall, ceiling, or floor surface inside a covered water-holding structure, or exterior below grade wall or roof surface of water-holding structure, open or covered.

1.02 RELATED SECTIONS

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

- | | | | |
|----|---------|----------|-------------------------|
| 1. | Section | 01 25 00 | Substitution Procedures |
| 2. | Section | 01 33 00 | Submittal Procedures |
| 3. | Section | 05 50 00 | Metal Fabrications |

1.03 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

A. The following is a list of standards which may be referenced in this section:

1. American Concrete Institute (ACI):
 - a. 318, Building Code Requirements for Structural Concrete.

- b. 355.2, Qualification of Post-Installed Mechanical Anchors in Concrete.
 - c. 355.4, Qualification of Post-Installed Adhesive Anchors in Concrete.
- 2. American Iron and Steel Institute (AISI): Stainless Steel Type 316.
- 3. American National Standards Institute (ANSI).
- 4. ASTM International (ASTM):
 - a. A123/A123M, Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - b. A143, Practice for Safeguarding Against Embrittlement of Hot-Dip Galvanized Structural Steel Products and Procedure for Detecting Embrittlement.
 - c. A153/A153M, Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
 - d. A193/A193M, Specification for Alloy-Steel and Stainless Steel Bolting Materials for High-Temperature Service.
 - e. A194/A194M, Specification for Carbon and Alloy Steel Nuts for Bolts for High-Pressure or High-Temperature Service, or Both.
 - f. A380, Practice for Cleaning, Descaling, and Passivation of Stainless Steel Parts, Equipment, and Systems.
 - g. A385, Practice for Providing High-Quality Zinc Coatings (Hot-Dip).
 - h. A563, Specification for Carbon and Alloy Steel Nuts.
 - i. A780, Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.
 - j. A967, Specification for Chemical Passivation Treatments for Stainless Steel Parts.
 - k. E488, Standard Test Methods for Strength of Anchors in Concrete Elements.
 - l. F436, Specification for Hardened Steel Washers.
 - m. F468, Specification for Nonferrous Bolts, Hex Cap Screws, and Studs for General Use.
 - n. F568M, Specification for Carbon and Alloy Steel Externally Threaded Metric Fasteners.
 - o. F593, Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs.
 - p. F594, Specification for Stainless Steel Nuts.
 - q. F1554, Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength.
- 5. International Association of Plumbing and Mechanical Officials Uniform ES (IAPMO-UES): Evaluation Reports for Concrete and Masonry Anchors.

6. International Code Council Evaluation Service (ICC-ES):
 - a. Evaluation Reports for Concrete and Masonry Anchors.
 - b. AC01, Acceptance Criteria for Expansion Anchors in Masonry Elements.
 - c. AC70, Acceptance Criteria for Fasteners Power-driven into Concrete, Steel and Masonry Elements.
 - d. AC106, Acceptance Criteria for Predrilled Fasteners (Screw Anchors) in Masonry Elements.
 - e. AC193, Acceptance Criteria for Mechanical Anchors in Concrete Elements.
 - f. AC308, Acceptance Criteria for Post-Installed Adhesive Anchors in Concrete Elements. Evaluation Reports for Concrete and Masonry Anchors.
7. Specialty Steel Industry of North America (SSINA):
 - a. Specifications for Stainless Steel.
 - b. Design Guidelines for the Selection and Use of Stainless Steel.
 - c. Stainless Steel Fabrication.
 - d. Stainless Steel Fasteners.

1.04 SUBMITTALS

- A. Action Submittals:
 1. Shop Drawings: Specific instructions for concrete anchor installation, including drilled hole size and depth, preparation, placement, curing procedures, and instructions for safe handling of anchoring systems.
- B. Informational Submittals:
 1. Concrete Anchors:
 - a. Manufacturer's product description and installation instructions.
 - b. Current ICC-ES or IAPMO-UES Report for each type of post-installed anchor to be used.
 2. Passivation method for stainless steel members.

1.05 QUALITY CONTROL

- A. Qualifications:
 1. Installers of adhesive anchors horizontally or upwardly inclined to support sustained tension loads shall be certified by an applicable certification program. Certification shall include written and performance tests in accordance with the ACI/CRSI Adhesive Installer Certification Program or equivalent.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Package stainless steel items in a manner to provide protection from carbon impregnation.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General:

- 1. AISI Type 316 stainless, as shown in Fastener Schedule at end of this section.
- 2. Post-installed anchor systems used in concrete shall be approved by ICC Evaluation Services Report or equivalent for use in cracked concrete and for short-term and long-term loads including wind and earthquake.
- 3. Adhesive Anchors: Comply with the requirements of ICC-ES AC308 or ACI 355.4.

B. Adhesive Anchors:

- 1. Threaded Rod:
 - a. Diameter as shown on Drawings.
 - b. Length as required to provide minimum depth of embedment indicated and thread projection required.
 - c. Clean and free of grease, oil, or other deleterious material.
- 2. Adhesive:
 - a. Two-component epoxy, insensitive to moisture, designed to be used in adverse freeze/thaw environments and compatible with the manufacturer of the adhesive anchor.
 - b. Cure Temperature, Pot Life, and Workability: Compatible for intended use and anticipated environmental conditions.
- 3. Packaging and Storage:
 - a. Disposable, self-contained system capable of dispensing both components in proper mixing ratio and fitting into a manually or pneumatically operated caulking gun.
 - b. Store adhesive on pallets or shelving in a covered storage area.
 - c. Package Markings: Include manufacturer's name, product name, batch number, product expiration date, ANSI hazard classification, and appropriate ANSI handling precautions.
 - d. Dispose of When:
 - (1) Shelf life has expired.
 - (2) Stored other than in accordance with manufacturer's instructions.

2.02 PERFORMANCE CRITERIA

- A. Unless otherwise indicated, meet the following requirements:

Item	ASTM/ANSI References
Stainless Steel:	
Threaded Rods	ASTM F593, AISI Type 316, Condition CW
Nuts*	ASTM F594, AISI Type 316, Condition CW
Washers	ANSI B18.22.1 Type A, ASTM A240 Type 316
*Nuts of other grades and styles having specified proof load stresses greater than specified grade and style are also suitable. Nuts must have specified proof load stresses equal to or greater than minimum tensile strength of specified threaded rod.	

- B. Bolts, Washers, and Nuts: Use 316 stainless steel material types as indicated in Fastener Schedule at end of this section.

2.03 MANUFACTURERS

- A. Manufacturers and Products:

1. Hilti, Inc., Tulsa, OK; HIT Doweling Anchor System, HIT-RE 500 V3 (ESR-3814).
2. Simpson Strong-Tie Co., Inc., Pleasanton, CA; SET-XP Epoxy Adhesive Anchors (ESR-2508), or AT-XP Adhesive Anchors (IAPMO UES-263).
3. Powers Fasteners, Brewster NY; Pure 110+ Epoxy adhesive anchor system (ESR-3298).
4. Or approved equal.

PART 3 - EXECUTION

3.01 CONCRETE ANCHORS

- A. Begin installation only after concrete to receive anchors has attained design strength.
- B. Locate existing reinforcing with Ground Penetrating Radar or other method approved by ENGINEER prior to drilling. Coordinate with ENGINEER to adjust anchor locations where installation would result in hitting reinforcing.
- C. Install in accordance with written manufacturer's instructions.

- D. Provide minimum embedment, edge distance, and spacing as indicated on Drawings.
- E. Use only drill type and bit type and diameter recommended by anchor manufacturer.
- F. Clean hole of debris and dust per manufacturer's requirements.
- G. When unidentified embedded steel, rebar, or other obstruction is encountered in drill path, slant drill to clear obstruction. If drill must be slanted more than indicated in manufacturer's installation instructions to clear obstruction, notify ENGINEER for direction on how to proceed.
- H. Existing Anchors and Studs: Existing anchors or studs shall be drilled out or burned off to a minimum of 1-1/2-inches below the surface of concrete and resulting void patched with an approved epoxy, Sikadur 32 Hi-Mod or approved equal.
- I. Adhesive Anchors:
 - 1. Unless otherwise approved by ENGINEER and adhesive manufacturer:
 - a. Do not install adhesive anchors when temperature of concrete is below 40 degrees F or above 100 degrees F.
 - b. Do not install prior to concrete attaining an age of 21 days.
 - c. Remove any standing water from hole with oil-free compressed air. Inside surface of hole shall be dry.
 - d. Do not disturb anchor during recommended curing time.
 - e. Do not exceed maximum torque as specified in manufacturer's instructions.

3.02 FIELD QUALITY ASSURANCE AND QUALITY CONTROL

- A. CONTRACTOR responsibilities and related information are included in Section 01 45 00.
- B. Contractor-Furnished Quality Control: Inspection and testing as required in Section 01 45 00.0

3.03 MANUFACTURER'S SERVICES

- A. Adhesive Anchors: Conduct Site training of installation personnel for proper installation, handling, and storage of adhesive anchor system. Notify ENGINEER of time and place for sessions.

3.04 FASTENER SCHEDULE

- A. Unless indicated otherwise on Drawings, provide fasteners as follows:

Service Use and Location	Product	Remarks
1. Post Installed Anchors for Metal Components to Cast-in-Place Concrete (such as, Ladders, Handrail Posts, Electrical Panels, Platforms, and Equipment)		
Interior Dry Areas	Anchor material type to match material being anchored (for example, stainless steel anchors – Type 316 - to anchor stainless steel equipment, zinc plated anchors to anchor painted equipment, galvanized anchors to anchor galvanized equipment).	Verify product acceptability and manufacturer's requirements if anchor installation will occur in an overhead application
Submerged, Exterior, Interior Wet, and Corrosive Areas (All areas in Flocculation and Sedimentation Basin)	Stainless steel adhesive anchors (Type 316)	Verify product acceptability and manufacturer's requirements if anchor installation will occur in an overhead application
4. All Others		
All service uses and locations	Stainless steel fasteners (Type 316)	

- B. Antiseizing Lubricant: Use on all stainless steel threads.
- C. Do not use adhesive anchors to support fire-resistive construction or where ambient temperature will exceed 120 degrees F.

**** END OF SECTION ****

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 05 50 00
METAL FABRICATIONS

PART 1 - GENERAL

1.01 SCOPE

- A. The CONTRACTOR shall provide metal fabrications and appurtenant work, completed, in accordance with the Contract Documents.
- B. DEFINITIONS
 - 01. Anchor Bolt: Cast-in-place anchor; concrete or masonry.
 - 02. Corrosive Area: Containment area or area exposed to delivery, storage, transfer, or use of chemicals.
 - 03. Exterior Area: Location not protected from weather by building or other enclosed structure.
 - 04. Interior Dry Area: Location inside building or structure where floor is not subject to liquid spills or washdown, nor where wall or roof slab is common to a water-holding or earth-retaining structure.
 - 05. Interior Wet Area: Location inside building or structure where floor is sloped to floor drains or gutters and is subject to liquid spills or washdown, or where wall, floor, or roof slab is common to a water-holding or earth-retaining structure.
 - 06. Submerged: Location at or below top of wall of open water-holding structure, such as basin or channel, or wall, ceiling or floor surface inside a covered water-holding structure, or exterior belowgrade wall or roof surface of water-holding structure, open or covered.

1.02 RELATED SECTIONS

- A. The Work of the following Sections apply to Work of this Section. Other Sections of the Specifications, not referenced below, shall also apply to the extent required for proper performance of the Work.
 - 01. Section 01 25 00 Substitution Procedures
 - 02. Section 01 33 00 Submittal Procedures
 - 03. Section 03 20 00 Concrete Reinforcing
 - 04. Section 05 05 19 Post- Installed Concrete Anchors

1.03 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

- A. The following is a list of standards which may be referenced in this section:
 - 01. The Aluminum Association, Inc. (AA): The Aluminum Design Manual.

02. American Galvanizers Association (AGA):
 - a. Inspection of Hot-Dip Galvanized Steel Products.
 - b. Quality Assurance Manual.
03. American Iron and Steel Institute (AISI): Stainless Steel Types.
04. American Ladder Institute (ALI): A14.3, Ladders - Fixed - Safety Requirements.
05. American National Standards Institute (ANSI).
06. American Society of Safety Engineers (ASSE): A10.11, Safety Requirements for Personnel and Debris Nets.
07. American Welding Society (AWS):
 - a. D1.1/D1.1M, Structural Welding Code - Steel.
 - b. D1.2/D1.2M, Structural Welding Code - Aluminum.
 - c. D1.6/D1.6M, Structural Welding Code - Stainless Steel.
08. ASTM International (ASTM):
 - a. A36/A36M, Standard Specification for Carbon Structural Steel.
 - b. A48/A48M, Specification for Gray Iron Castings.
 - c. A53/A53M, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
 - d. A108, Standard Specification for Steel Bar, Carbon and Alloy, Cold-Finished.
 - e. A123/A123M, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - f. A143/A143M, Standard for Safeguarding Against Embrittlement of Hot-Dip Galvanized Structural Steel Products and Procedure for Detecting Embrittlement.
 - g. A153/A153M, Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
 - h. A193/A193M, Standard Specification for Alloy-Steel and Stainless Steel Bolting for High Temperature or High Pressure Service and Other Special Purpose Applications.
 - i. A194/A194M, Standard Specification for Carbon and Alloy Steel Nuts for Bolts for High Pressure or High Temperature Service, or Both.
 - j. A240/A240M, Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
 - k. A276, Standard Specification for Stainless Steel Bars and Shapes.
 - l. A283/A283M, Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates.
 - m. A307, Standard Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.

- n. A325, Standard Specification for Structural Bolts, Steel, Heat Treated 120/105 ksi Minimum Tensile Strength.
- o. A380, Standard Practice for Cleaning, Descaling, and Passivation of Stainless Steel Parts, Equipment, and Systems.
- p. A384/A384M, Standard Practice for Safeguarding Against Warpage and Distortion During Hot-Dip Galvanizing of Steel Assemblies.
- q. A385/A385M, Standard Practice for Providing High-Quality Zinc Coatings (Hot-Dip).
- r. A489, Standard Specification for Carbon Steel Lifting Eyes.
- s. A500/A500M, Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
- t. A501, Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.
- u. A563, Standard Specification for Carbon and Alloy Steel Nuts.
- v. A653/A653M, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- w. A780/A780, Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.
- x. A786/A786M, Standard Specification for Hot-Rolled Carbon, Low-Alloy, High-Strength Low-Alloy, and Alloy Steel Floor Plates.
- y. A793, Standard Specification for Rolled Floor Plate, Stainless Steel.
- z. A967, Standard Specification for Chemical Passivation Treatments for Stainless Steel Parts.
- aa. A992/A992M, Standard Specification for Structural Steel Shapes.
- bb. A1085, Standard Specification for Cold-Formed Welded Carbon Steel Hollow Structural Sections (HSS).
- cc. B209, Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- dd. B308/B308M, Standard Specification for Aluminum-Alloy 6061-T6 Standard Structural Profiles.
- ee. B429/B429M, Standard Specification for Aluminum-Alloy Extruded Structural Pipe and Tube.
- ff. B632/B632M, Standard Specification for Aluminum-Alloy Rolled Tread Plate.
- gg. C881/C881M, Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete.
- hh. D1056, Standard Specification for Flexible Cellular Materials - Sponge or Expanded Rubber.
- ii. F436, Standard Specification for Hardened Steel Washers.
- jj. F468, Standard Specification for Nonferrous Bolts, Hex Cap Screws, and Studs for General Use.

- kk. F593, Standard Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs.
 - ll. F594, Standard Specification for Stainless Steel Nuts.
 - mm. F844, Standard Specification for Washers, Steel, Plain (Flat), Unhardened for General Use.
 - nn. F1554, Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength.
09. 2019 California Building Code (CBC)
 10. NSF International (NSF): 61, Drinking Water System Components—Health Effects.
 11. Occupational Safety and Health Administration (OSHA):
 - a. 29 CFR 1910.27, Fixed Ladders.
 - b. 29 CFR 1926.105, Safety Nets.
 - c. 29 CFR 1926.502, Fall Protection Systems Criteria and Practices.
 12. Specialty Steel Industry of North America (SSINA):
 - a. Specifications for Stainless Steel.
 - b. Design Guidelines for the Selection and Use of Stainless Steel.
 - c. Stainless Steel Fabrication.
 - d. Stainless Steel Fasteners.

1.04 SUBMITTALS

A. Action Submittals:

01. Shop Drawings: Metal fabrications, including welding and fastener information.
02. Delegated-Design Submittals: Provide design data and analysis signed and sealed by a registered professional civil or structural engineer in the State of California, responsible for their preparations.

B. Informational Submittals:

01. Passivation method for stainless steel members.
02. Galvanized coating applicator qualifications.
03. Hot-Dip Galvanizing: Certificate of compliance signed by galvanizer, with description of material processed and ASTM standard used for coating.

1.05 QUALITY CONTROL

A. Qualifications:

01. Galvanized Coating Applicator: Company specializing in hot-dip galvanizing after fabrication and following procedures of Quality Assurance Manual of the American Galvanizers Association.

1.06 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Design removable steel cover plates, H-20 rated grating, pedestrian load rated grating, and hatches, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
- B. Structural Performance of steel cover plates and H-20 rated grating: Steel cover plates and grating shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated.
 - 01. Loads: Shall be H-20 traffic rated in conformance with the current AASHTO standard specification.
 - 02. Framing: Capable of withstanding stresses resulting from loads specified above.
 - 03. Limit deflection to $L/360$ or 1/4 inch, whichever is less.
- C. Structural Performance of pedestrian rated grating: Grating shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated.
 - 01. Uniform Load: 100 lbf/sq. ft.
 - 02. Concentrated Load: 300 lbf applied on an area of 4 sq. in.
 - 03. Uniform and concentrated loads need not be assumed to act concurrently.
 - 04. Framing: Capable of withstanding stresses resulting from loads specified above.
 - 05. Limit deflection to $L/360$ or 1/4 inch, whichever is less.
- D. Structural Performance of hatches: Hatches shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated.
 - 01. Uniform Load: 100 lbf/sq. ft.
 - 02. Concentrated Load: 300 lbf applied on an area of 4 sq. in.
 - 03. Uniform and concentrated loads need not be assumed to act concurrently.
 - 04. Framing: Capable of withstanding stresses resulting from loads specified above.
 - 05. Limit deflection to $L/360$ or 1/4 inch, whichever is less.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Insofar as practical, factory assemble specified items. Package assemblies, which have to be shipped unassembled to protect materials from damage and tag to facilitate identification and field assembly.

- B. Package stainless steel items to provide protection from carbon impregnation.
- C. Protect painted coatings and hot-dip galvanized finishes from damage as a result of metal banding and rough handling. Use padded slings and straps.
- D. Store fabricated items in dry area, not in direct contact with ground.

1.08 SPECIAL GUARANTEE

- A. Manufacturer’s extended guarantee or warranty, with OWNER named as beneficiary, in writing, as special guarantee. Special guarantee shall provide for correction, or at option of OWNER, removal and replacement of appurtenance found defective during a period of 5 years after date of Substantial Completion. Duties and obligations for correction or removal and replacement of defective Work as specified in General Conditions.

PART 2 - PRODUCTS

2.01 GENERAL

- A. For hot-dip galvanized steel that is exposed to view and does not receive paint, limit the combined phosphorus and silicon content to 0.04 percent. For steels that require a minimum of 0.15 percent silicon (such as plates over 1.5 inches thick for ASTM A36/A36M steel), limit maximum silicon content to 0.21 percent and phosphorous content to 0.03 percent.
- B. Unless otherwise indicated, meet the following requirements:

Item	ASTM Reference
Stainless Steel:	
Bars and Angles	A276, AISI Type 316 (316L for welded connections)
Shapes	A276, AISI Type 316 (316L for welded connections)
Steel Plate, Sheet, and Strip	A240/A240M, AISI Type 316 (316L for welded connections)
Bolts, Threaded Rods, Anchor Bolts, and Anchor Studs	F593, AISI Type 316, Group 2, Condition SH
Nuts and Flat Washers	F594, AISI Type 316, Condition CW

2.02 ANCHOR BOLTS

- A. Cast-In-Place Anchor Bolts:

01. Headed type, unless otherwise shown on Drawings.
02. Material type and protective coating as shown in Fastener Schedule at end of this section.

2.03 POST-INSTALLED CONCRETE ANCHORS

- A. See Section 05 05 19, Post-Installed Anchors.

2.04 STUD SHEAR CONNECTORS (N/A)

- A. Headed anchor studs (HAS), or threaded anchor studs (TAS), or stud shear connectors, as indicated on Drawings.
 01. Carbon Steel: ASTM A108, Standard Quality Grades 1010 through 1020, inclusive either semikilled or killed aluminum or silicon dioxidation, unless indicated otherwise.
 02. Stainless Steel: ASTM F593, AISI Type 316, Condition CW, where indicated.
- B. Manufacturers:
 01. Nelson Stud Welding, FabriSteel Co., Elyria, OH.
 02. Stud Welding Associates, Inc., Elyria, OH.

2.05 EMBEDDED STEEL SUPPORT FRAMES FOR FLOOR PLATE AND GRATING (N/A)

- A. Steel angle support frames to be embedded in concrete shall be stainless steel, ASTM A276, AISI Type 316, unless indicated otherwise.
- B. Welded anchors for stainless steel support frames shall also be stainless steel.

2.06 STEEL COVER PLATE (N/A)

- A. Steel cover plates shall be Carbon Steel, A36/A36M and hot dip galvanized after fabrication, unless indicated otherwise.

2.07 GRATING (N/A)

- A. Interior grating shall be Carbon Steel, A36/A36M and hot dip galvanized after fabrication, unless indicated otherwise.

2.08 SIDEWALK DOORS (N/A)

2.09 HATCHES (N/A)

- A. Hatch Type: Where access hatches are indicated to be mounted on a floor slab (including top slabs which are not covered with a roofing membrane) or on a concrete curb, the hatch shall be a flush type as indicated herein. Hatches mounted on a roof surface which has a membrane or other roofing material covering it shall be as indicated in Section 07 72 30 - Roof Hatches.

- B. Hatch Materials: All hatches shall be fabricated from Type 304 stainless steel unless otherwise indicated. All hatch hardware shall be Type 316 stainless steel.
- C. Hatch Dimensions: Hatch opening sizes, number and direction of swing of door leaves, and locations shall be as indicated. Sizes given shall be for the clear opening. Where the number of leaves is not given, openings larger than 42 inches in either direction shall have double-leaf doors. Unless indicated otherwise, hinges shall be located on the longer dimension side. Unless indicated otherwise, ladder hatches shall be a minimum of 30 inches wide by 36 inches long, with the ladder centered on the shorter dimension, and the door hinge opposite the ladder.
- D. Hatch Doors: Door leaves shall be a minimum of 3-inch raised lugs of diamond shape pattern checkered plate. Channel frames shall be a minimum of 3-inch material with an anchor flange around the perimeter. Hatches shall be provided with an automatic hold-open arm with release handle. Equip doors with heavy forged bronze hinges, stainless steel pin and spring operators for ease of operation by a single person. Hatches shall be designed for easy opening from both inside and outside. Opening handles, levers, or other opening devices shall rest flush with the hatch surface.
- E. Water Tightness: Hatches located outdoors shall be designed to be water-tight and shall be equipped with a joint gutter and moat-type edge drain. A 1.5-inch diameter (minimum) drain connection shall be provided and located by the manufacturer.
- F. Safety: Provide removable safety grating inside the hatches.
- G. Manufacturers and Products:
 - 01. Bilco Co., New Haven, CT
 - 02. Nystrom Products Co., Minneapolis, MN
 - 03. U.S.F. Fabrication, Hialeah, FL
 - 04. ITT Flygt Corporation, Trumbull, CT
 - 05. Thompson Fabricating Co., Birmingham, AL
 - 06. Halliday Products, Orlando, FL

2.10 HATCH SAFETY NET (N/A)

- A. General:
 - 01. Conforms to ASSE A10.11 and OSHA CFR Part 1926.105.
 - 02. Size to fit hatch opening where indicated.
- B. Components and Accessories:
 - 01. Rails and Slide Rings: Aluminum 6061-T6 extruded rails and aluminum-alloy 713.0 slide rings.
 - 02. Corner Hooks and Eyebolts: AISI Type 316 stainless steel.

03. Netting: Polyester, 5-inch by 5-inch net openings; 5,000 pounds minimum breaking strength.
04. Bolts, Nuts, and Concrete Anchors: AISI Type 316 stainless steel.

C. Manufacturer and Product: Safe Approach Inc., Auburn, ME; Hatch Net 121.

2.11 HINGED MANHOLE COVERS (N/A)

2.12 FABRICATED UNITS (N/A)

2.13 ACCESSORIES

A. Antiseizing Lubricant for Stainless Steel Threaded Connections:

01. Suitable for potable water supply.
02. Resists washout.
03. Manufacturers and Products:
 - a. Bostik, Middleton, MA; Neverseez.
 - b. Saf-T-Eze Div., STL Corp., Lombard, IL; Anti-Seize.

B. Neoprene Gasket:

01. ASTM D1056, 2C1, soft, closed-cell neoprene gasket material, suitable for exposure to sewage and sewage gases, unless otherwise shown on Drawings.
02. Thickness: Minimum 1/4 inch.
03. Furnish without skin coat.
04. Manufacturer and Product: Monmouth Rubber and Plastics Corporation, Long Branch, NJ; Durafoam DK1111LD.

2.14 FABRICATION

A. General:

01. Finish exposed surfaces smooth, sharp, and to well-defined lines.
02. Furnish necessary rabbets, lugs, and brackets so work can be assembled in neat, substantial manner.
03. Conceal fastenings where practical; where exposed, flush countersink.
04. Drill metalwork and countersink holes as required for attaching hardware or other materials.
05. Grind cut edges smooth and straight. Round sharp edges to small uniform radius. Grind burrs, jagged edges, and surface defects smooth.
06. Fit and assemble in largest practical sections for delivery to Site.

B. Materials:

01. Use steel shapes, unless otherwise noted.

02. Steel to be hot-dip galvanized: Limit silicon content to less than 0.04 percent or to between 0.15 percent and 0.25 percent.
03. Fabricate aluminum in accordance with AA Specifications for Aluminum Structures–Allowable Stress Design.

C. Welding:

01. Weld connections and grind exposed welds smooth. When required to be watertight, make welds continuous.
02. Welded fabrications shall be free from twisting or distortion caused by improper welding techniques.
03. Steel: Meet fabrication requirements of AWS D1.1/D1.1M, Section 5.
04. Aluminum: Meet requirements of AWS D1.2/D1.2M.
05. Stainless Steel: Meet requirements of AWS D1.6/D1.6M.
06. Welded Anchor Studs: Prepare surface to be welded and weld with stud welding gun in accordance with AWS D1.1/D1.1M, Section 7, and manufacturer's instructions.
07. Complete welding before applying finish.

D. Galvanizing (N/A)

01. Fabricate steel to be galvanized in accordance with ASTM A143/A143M, ASTM A384/A384M, and ASTM A385/A385M. Avoid fabrication techniques that could cause distortion or embrittlement of the steel.
02. Provide venting and drain holes for tubular members and fabricated assemblies in accordance with ASTM A385/A385M.
03. Remove welding slag, splatter, burrs, grease, oil, paint, lacquer, and other deleterious material prior to delivery for galvanizing.
04. Remove by blast cleaning or other methods surface contaminants and coatings not removable by normal chemical cleaning process in the galvanizing operation.
05. Hot-dip galvanize steel members, fabrications, and assemblies after fabrication in accordance with ASTM A123/A123M.
06. Hot-dip galvanize bolts, nuts, washers, and hardware components in accordance with ASTM A153/A153M. Oversize holes to allow for zinc alloy growth. Shop assemble bolts and nuts.
07. Galvanized steel sheets in accordance with ASTM A653/A653M.
08. Galvanize components of bolted assemblies separately before assembly. Galvanizing of tapped holes is not required.

E. Electrolytic Protection (N/A)

01. Coat surfaces of galvanized steel and aluminum fabricated items to be in direct contact with concrete, grout, masonry, or dissimilar metals, as

specified in Section 09 01 90, Maintenance of Painting and Coatings, unless indicated otherwise.

- F. Watertight Seal: Where required or shown, furnish neoprene gasket of a type that is satisfactory for use in exterior conditions. Cover full bearing surfaces.
- G. Fitting: Where movement of fabrications is required or shown, cut, fit, and align items for smooth operation. Make corners square and opposite sides parallel.
- H. Accessories: Furnish as required for a complete installation. Fasten by welding or with stainless steel bolts or screws.

2.15 SOURCE QUALITY CONTROL

- A. Visually inspect all fabrication welds and correct deficiencies.
 - 01. Steel: AWS D1.1/D1.1M, Section 6 and Table 6.1, Visual Inspection Acceptance Criteria.
 - 02. Aluminum: AWS D1.2/D1.2M.
 - 03. Stainless Steel: AWS D1.6/D1.6M.

PART 3 - EXECUTION

3.01 INSTALLATION OF METAL FABRICATIONS

- A. General:
 - 01. Install metal fabrications plumb and level, accurately fitted, free from distortion or defects.
 - 02. Install rigid, substantial, and neat in appearance.
 - 03. Install manufactured products in accordance with manufacturer's recommendations.
 - 04. Obtain ENGINEER approval prior to field cutting steel members or making adjustments not scheduled.
- B. Aluminum: (N/A)
 - 01. Do not remove mill markings from concealed surfaces.
 - 02. Remove inked or painted identification marks on exposed surfaces not otherwise coated after installed material has been inspected and approved.
 - 03. Fabrication, mechanical connections, and welded construction shall be in accordance with the AA Aluminum Design Manual.
- C. Pipe Sleeves: (N/A)
 - 01. Provide where pipes pass through concrete.

- 02. Provide center flange for water stoppage on sleeves in exterior or water-bearing walls.
 - 03. Provide rubber caulking sealant or a modular mechanical unit to form watertight seal in annular space between pipes and sleeves.
- D. Steel Lintels and Shelf Angles: Provide as required for support of construction not attached to structural steel framing, unless otherwise shown on Drawings.

3.02 CAST-IN-PLACE ANCHOR BOLTS

- A. Locate and hold anchor bolts in place with templates at time concrete is placed.
- B. Use anchor bolt sleeves for location adjustment and provide two nuts and one washer per bolt of same material as bolt.
- C. Minimum Bolt Size: 1/2-inch diameter by 12 inches long, unless otherwise shown.

3.03 ACCESS COVERS (N/A)

- A. Install access covers, including floor hatches, in accordance with manufacturer's instructions.
- B. Accurately position prior to placing concrete, such that covers are flush with floor surface.
- C. Protect from damage resulting from concrete placement. Thoroughly clean exposed surfaces of concrete spillage to obtain a clean, uniform appearance.
- D. Route drain pipe to exterior face of concrete or as shown on Drawings.
- E. Position cover so that hinge is on side opposite ladder.

3.04 ELECTROLYTIC PROTECTION (N/A)

- A. Aluminum and Galvanized Steel:
 - 01. Coat surfaces of galvanized steel and aluminum fabricated items to be in direct contact with concrete, grout, or dissimilar metals, as specified in Section 09 91 13 Exterior Painting or Section 09 91 23 Interior Painting, unless indicated otherwise.
 - 02. Do not apply protective coating to galvanized steel anchor bolts or galvanized steel welded anchor studs, unless indicated otherwise.
 - 03. Allow coating to dry before installation of the material.
 - 04. Protect coated surfaces during installation.
 - 05. Should coating become marred, prepare and touch up in accordance with paint manufacturer's written instructions.

- B. Titanium: Where titanium equipment is in contact with concrete or dissimilar metal, provide full-face neoprene insulation gasket, 3/32-inch minimum thickness and 70-durometer hardness.
- C. Stainless Steel:
 - 01. During handling and installation, take necessary precautions to prevent carbon impregnation of stainless steel members.
 - 02. After installation, visually inspect stainless steel surfaces for evidence of iron rust, oil, paint, and other forms of contamination.
 - 03. Remove contamination using cleaning and passivation methods in accordance with requirements of ASTM A380 and ASTM A967.
 - 04. Brushes used to remove foreign substances shall utilize only stainless steel or nonmetallic bristles.
 - 05. After treatment, visually inspect surfaces for compliance.

3.05 PAINTING (N/A)

- A. Painted Galvanized Surfaces: Prepare as specified in Section 09 01 90.
- B. Repair of Damaged Hot-Dip Galvanized Coating:
 - 01. Conform to ASTM A780/A780M.
 - 02. For minor repairs at abraded areas, use sprayed zinc conforming to ASTM A780/A780M.
 - 03. For flame cut or welded areas, use zinc-based solder, or zinc sticks, conforming to ASTM A780/A780M.
 - 04. Use magnetic gauge to determine thickness is equal to or greater than base galvanized coating.
- C. Field Painting of Shop Primed Surfaces: Prepare surfaces and field finish in accordance with Section 09 01 90.

3.06 FIELD QUALITY ASSURANCE AND QUALITY CONTROL

- A. Owner-Furnished Quality Assurance:
 - 01. CONTRACTOR responsibilities and related information on special inspection, observation, and quality control are included in Section 01 45 00.
- B. Contractor-Furnished Quality Control:
 - 01. Inspection and quality control are included in Section 01 45 00.

3.07 FASTENER SCHEDULE

- A. Unless indicated otherwise on Drawings, provide fasteners as follows:

Service Use and Location	Product	Remarks
1. Anchor Bolts Cast Into Concrete for Structural Steel, Metal Fabrications and Castings		
Interior Dry Areas	Hot-dip galvanized steel headed anchor bolts, unless indicated otherwise	
Exterior and Interior Wet Areas	Stainless steel (Type 316) headed anchor bolts	
Submerged and Corrosive Areas	Stainless steel (Type 316) headed anchor bolts with fusion bonded coating	See Section 09 01 90, Painting and Coating
2. Anchor Bolts Cast Into Concrete for Equipment Bases		
Interior Dry Areas	Hot-dip galvanized steel headed anchor bolts, unless otherwise specified with equipment	
Submerged, Exterior, Interior Wet, and Corrosive Areas	Stainless steel (Type 316) headed anchor bolts with fusion bonded coating, unless otherwise specified with equipment	See Section 09 01 90, Painting and Coating
3. Post-Installed Anchors: See Section 05 05 19, Post-Installed Anchors		
4. Connections for Structural Steel Framing		
Exterior and Interior Wet and Dry Areas	High-strength steel bolted connections	Use hot-dipped galvanized high-strength bolted connections for galvanized steel framing members.
5. Connections for Steel Fabrications and Wood Components		
Exterior and Interior Wet and Dry Areas	Stainless steel (Type 316) bolted connections	
6. Connections of Aluminum Components		

Service Use and Location	Product	Remarks
Submerged, Exterior and Interior Wet and Dry Areas	Stainless steel (Type 316) bolted connections, unless otherwise specified with equipment	
7. All Others		
Exterior and Interior Wet and Dry Areas	Stainless steel (Type 316) fasteners	

B. Antiseizing Lubricant: Use on stainless steel threads.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 06 10 53

MISCELLANEOUS ROUGH CARPENTRY

PART 1 - GENERAL

1.01 SCOPE

- A. The CONTRACTOR shall provide rough carpentry and appurtenant Work, complete, in accordance with the Contract Documents.
- B. The Work shall include the following principal items:
- C. Wood diffuser baffles, both primary and secondary baffles including baffle planks and splice boards.
 - 1. All rough hardware appurtenant to the Work of this Section.

1.02 RELATED SECTIONS

- A. The Work of the following Sections apply 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 01 25 00 Substitution Procedures.
 - 2. Section 01 33 00 Submittal Procedures.

1.03 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

- A. Except as otherwise indicated in this Section of the Specifications, the CONTRACTOR shall comply with the latest adopted edition of the Standard Specifications for Public Works Construction (SSPWC), together with the latest adopted editions of the Regional and City of San Diego Supplement Amendments.
- B. The Work of this Section shall comply with the current edition of the California Building Code (CBC) as adopted by the City of San Diego.
- C. Federal Specifications:
 - 1. FF-B-561C Bolts, (Screws), Lab.
 - 2. FF-B-575C Bolts, Hexagon and Square.
 - 3. FF-B-584E(1) Bolts, Finned Neck, Key Head; Machine Ribbed Neck, Square Neck, Tee Head.
 - 4. FF-B-588D Bolt, Toggle: Expansion Sleeve, Screw.
 - 5. FF-N-105B(3) Int. Amd. 4 Nails, Brads, Staples and Spikes, Wire, Cut and Wrought.

6. FF-N-836E Nut: Square, Hexagon, Cap, Slotted, Castle, Knurled, Welding and Single Ball Seat.
7. FF-S-111D(1) Screw, Wood.
8. FF-S-1362 Stud, Plain, General Purpose.
9. ANSI/AITC A 190.1 Structural, Glue-Laminated, Timber.
10. U.S. Product Std. PS-1 Construction and Industrial Plywood.
11. ANSI/AHA A 135.4 Basic Hardboard.
12. U.S. Commercial Std. (CS-253) Structural, Glue-Laminated, Timber.
13. U.S. Commercial Std. CS-35 Pine Plywood.
14. U.S. Product Std. PS-58 Hard Board.
15. U.S. Product Std. PS-1 Softwood Plywood.

D. Commercial Standards:

1. AITC 104 Typical Construction Details.
2. AITC 105 Timber Construction Manual, Recommended Practice for the Erection of Structural Timber Framing.
3. ASME/ANSI B18.2.1 Bolts, (Screw), Lag.
4. ASME/ANSI B18.18.1 Bolts, (Screw), Lag.
5. ASTM D 226 REV A Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
6. ASME/ANSI B18.9 Nails, Brads, Staples and Spikes; Wire, Cut and Wrought.
7. AWPA C1 AWPA Manual of Recommended Practice, Standard For Preservative Treatment by Pressure Process--All Timber Products.
8. ASTM F1667 Nails, Brads, Staples and Spikes; Wire, Cut and Wrought.
9. FPL Bulletin 1069 Effect of Pretreatment of Wood on the lignin Determination; Distribution of Methoxyls in Wood.
10. RIS Standard Specifications for Grades of California Redwood Lumber by the Redwood Inspection Service.
11. SPIB Grading Rules for Southern Pine Lumber of the Southern Pine Inspection Bureau.
12. WCLIB Standard Grading and Dressing Rules No. 16 of the West Coast Lumber Inspection Bureau.
13. WWPAS Standard Grading Rules for Western Lumber, Western Wood Products Association.

1.04 SUBMITTALS

- A. The following shall be submitted to CONSTRUCTION MANAGER in accordance with Section 01 33 00 - Submittals.

1. Manufacturers' catalogs showing rough hardware conforming to or equivalent to hardware indicated.
2. Inspection report of independent inspection agency showing that the product complies with applicable AWP treatment standards. The quality mark ALP-22" on each piece will be accepted in lieu of inspection reports, as evidence of compliance with applicable AWP treatment standards.
3. Grading agency stamps verifying that all lumber used to construct the diffuser baffles are Clear All Heart redwood with no imperfections that would be of a lesser grade. Clear Heart or lesser grades of lumber are not acceptable.
4. Submit detailed shop fabrication drawings for millwork of the diffuser baffles, baffle openings. Fabrication drawings shall indicate tolerances, circular radii, splice board details and other relevant details for shop fabrication. Baffles shall be shop fabricated by qualified millwork specialists. Field fabrication with the exception of cutting baffle components to length is not acceptable.

1.05 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

2.01 GENERAL

- A. Only lumber certified as complying with the indicated requirements shall be provided.
- B. Lumber shall be new, of current manufacture, and shall be the products of reputable mills specializing in producing such lumber.
- C. Lumber and plywood shall comply with SSPWC Subsection 204-1 and this Section.

2.02 UNTREATED LUMBER

- A. Grading: Lumber shall be graded in accordance with the rules of one of the following associations: "Grading Rules for Southern Pine Lumber" of the Southern Pine Inspection Bureau; "Standard Grading and Dressing Rules No. 16" of the West Coast Lumber Inspection Bureau (WCLIB); or "Grading Rules for Western Lumber" published by Western Wood Products Association.
- B. Grade Marking: Each piece of lumber shall bear the official grade mark of one of the above- mentioned grading rules. The Association standards for grading and grade marking of the lumber shall be acceptable to CONSTRUCTION MANAGER.

- C. Size Dressing: All lumber, except as otherwise indicated, shall be dressed to size in accordance with the standards of the association under which the lumber is graded. All lumber shall be S4S unless otherwise indicated.
- D. Drying: All lumber incorporated in the Work, except where otherwise indicated on the Drawings, shall be air or kiln dried to a moisture content of not more than 12 percent, and not less than 7 percent.
- E. Framing Lumber Grades: Grades of framing lumber for various uses shall conform to the following:

<u>Use</u>	<u>WCLIB/WWPA Grade</u>	<u>Grading Rule</u>	<u>Stress Fb</u>
Diffuser planks, splice boards	Redwood, <u>Clear</u> <u>All Heart</u>		1200 psi

2.03 TREATED LUMBER (N/A)

- A. SSPWC Compliance: Lumber shall be treated with preservatives in compliance with SSPWC Subsection 204-2.1 and this Section.
- B. Marking: Each piece of treated lumber shall bear the approval mark of an approved testing agency.
- C. Kiln Drying: Kiln-dried lumber shall be treated with a water-borne preservative and shall have a maximum moisture content of 15 percent after treatment.
- D. Pressure-Treated Lumber: All wood nailing blocks, sills, and plates resting on or embedded in concrete or masonry within 18 inches of grade shall be pressure-treated in accordance with AWPA C1. Preservative shall conform to American Wood Preservers Association and American Wood Preservers Bureau Standard Specifications. Creosote shall not be used.
- E. Preservative: Two thorough coats of preservative, Zehrunge "Zerpel"; Sherwin Williams, "Kemwood Penta," or approved equal, shall be applied at least 2 hours before installation, to all surfaces which come in contact with, or are set close to concrete and plaster, except lumber specified to be pressure-treated. Tank dipping or pressure-treating may be used.
- F. Cuts: Wherever necessary to cut, notch, dap, drill, or frame treated lumber, newly cut or bored surfaces shall be treated with two heavy coats of the same preservative used in the original treatment. The minimum preservative penetration depth shall be 1/4 inch.
- G. Fire-Retardant Treated Lumber: Where required, fire-retardant treatment for lumber shall conform to the requirements of the governing building code.

2.04 PLYWOOD AND HARDBOARD (N/A)

- A. Plywood: Plywood shall conform to the requirements of U.S. Product Standard PS-1 and as indicated herein. All plywood panels shall be marked with grade mark of the American Plywood Association. The mark shall identify the plywood as to species, glue type, and grade in compliance with the applicable commercial standard. Except as otherwise indicated, plywood shall be [Douglas Fir, Exterior, C-D, S1S]. Plywood for other specific applications shall be as follows:
1. Plywood for use in concrete forms shall conform to the requirements of Section 03100 - Concrete Formwork.
 2. Plywood for back-up boards behind telephone equipment, electrical equipment, or communication equipment shall be Douglas Fir, A-C IN grade for interior locations and A-C-EXT for exterior locations.
 3. Plywood tool boards and protective wall paneling shall be Douglas Fir N-D-IN grade.

2.05 ROUGH HARDWARE

- A. General: The term "rough hardware" shall include nails, screws, lag screws, bolts, nuts, washers, plates, metal fasteners, and framing anchors; anchor bolts which are to be embedded into concrete, concrete masonry, or brick masonry; and similar items employed in erection and construction of the rough carpentry Work. Rough hardware shall be of standard manufacture, approved by a recognized agency for the intended applications and shall be provided with laboratory test results on capabilities when requested by the CONSTRUCTION MANAGER. All hardware items shall be steel unless otherwise indicated. Specially fabricated rough hardware shall be hot-dip galvanized after fabrication.
- B. Anchors and Fasteners: Anchors and fasteners for securing wood items shall be 316 stainless steel, unless otherwise indicated, shall be as follows:
1. Bolts, nuts, and studs shall conform to the requirements of ASME/ANSI B18.9 and Federal Specifications FF-N-836E(3), FF-S-1362, and FF-B-575C, as applicable and as specified in Section 05 50 00- Metal Fabrications.
 2. (exposed to view) plywood siding, siding, or trim shall be stainless steel.
 3. Wood screws shall conform to the requirements of Federal Specification FF-S-111D(1) for the style and material as shown or best suited for the purpose.
 4. Lag screws or lag bolts shall conform to the requirements of Federal Specification FF-B-561D for the type and grade best suited for the purpose. Lag screws or lag bolts shall be 316 stainless steel where exposed to view or weather.
 5. Toggle bolts shall conform to the requirements of Federal Specification FF-B-588D for the type and grade best suited for the purpose.
 6. Expansion shields shall be in accordance with Section 05500 - Miscellaneous Metals.

7. Power-driven pins shall be in accordance with Section 05500 - Miscellaneous Metals.

C. fasteners called for in the design calculations for the framing devices.

2.06 MISCELLANEOUS PRODUCTS (N/A)

A. Building Paper: Building paper or felt shall be non-perforated, asphalt-saturated organic felt conforming to ASTM D 226, 15 pounds per 100 square feet.

B. Termite Shields: Termite shields shall be not less than 26-gage, zinc-coated steel or 30-gage, terne steel coated with 40 pounds of coating material per 100 square feet.

PART 3 - EXECUTION

3.01 GENERAL

A. Preliminaries: Rough carpentry shall be as indicated and as necessary for complete Work. Verify drawing dimensions with actual field conditions, inspect related Work and adjacent surfaces, and report to the CONSTRUCTION MANAGER all conditions which could prevent proper execution of this Work.

B. Work Coordination and Performance: Coordinate all the Work and cooperate with the subcontractors and the trades doing related Work. All Work of construction shall be carefully planned and laid out. All Work shall be performed under the direction of a capable, experienced supervisor.

C. Rough Hardware: All rough hardware not otherwise indicated and which is necessary for the satisfactory execution of framing, including nails, spikes, dowels, fasteners, and similar incidentals shall be provided. Rough hardware shall be coordinated, furnished, installed, and embedded as indicated and as required for a complete Work.

D. Framing: Framing members and assemblies shall be closely fitted, accurately set, and rigidly secured to required lines, levels, and arrangements. Framing shall be accurately and neatly cut and shall be securely nailed, spiked, or otherwise fastened in place in a workmanlike manner. Timber connectors and installation thereof shall conform to applicable requirements of AITC 104 and AITC 105.

3.02 FASTENERS AND FRAMING DEVICES

A. Nailing: Where nail spacing is not otherwise regulated by the Building Code, nails shall not be driven closer together than 2 their length unless driven in drilled holes, nor driven closer to the edge of a member than 1/4 of their length. When necessary to prevent splitting, holes shall be drilled slightly smaller than nail diameters. The nails shall penetrate the second or farther member not less than 2 the nail length. Common nails shall be used unless otherwise indicated.

- B. Bolts and Nuts: Malleable or cut-steel washers shall be provided under bolt heads and nuts except where bearing on steel plates or other steel attachments or where flat-head countersunk bolts indicated. Bolt holes shall be drilled 1/32 inch to 1/16 inch larger diameter than the bolts they are to accommodate, and shall be bored true-to-line. Members shall be clamped together and bolts shall be driven in place and nuts drawn up tightly. Bolts shall be drawn tight again immediately prior to enclosing with finish or, if left exposed, upon completion of other Work. Holes at anchor bolts embedded in concrete may be 1/16 inch larger than bolt diameter.
- C. Screws: Lag and wood screws shall be screwed, not driven, into place. Holes to receive lag screws shall be bored first of the same diameter and depth as shank, then continued to depth equal to length of screw with diameter equal to the base of the screw thread. Screws shall penetrate into the farther member a distance equal to a least seven times the diameter of the screw shank. Washers shall be installed under each lag screw head bearing on wood.
- D. Metal Framing Devices: Metal framing devices shall be provided where indicated. Nails for the framing devices shall be as furnished or recommended by the manufacturer of the anchor device. All nails shall be driven to their full depth at all holes in anchors. Bolt and lag fasteners shall be drawn tight.

3.03 FRAMING

- A. Strength Considerations: Structural wood framing members shall not be spliced between bearing points or supports. Approval shall be secured from the CONSTRUCTION MANAGER before cutting of any wood members that may weaken structure. Due care shall be exercised in placing framing so that structural and other important members do not require cutting for openings, pipes, vents, conduits, or ducts. Bearing surfaces on which wood structural members are to rest shall be finished to give full, true, and even support. Wedges or shims shall not be used to correct faulty Work. Wood members which have been split or otherwise damaged to such an extent as to impair their strength shall be removed and replaced at no additional cost to the OWNER.
- B. Cutting and Notching: Only skilled workmen shall be used for all cutting and framing of wood members required to accommodate structural members, routing of piping, conduit, ducts, and the installation of mechanical, electrical, or other apparatus or equipment. Members shall not be cut, notched, nor bored more than 1/4 of their depth without adequate and approved reinforcing.
- C. Blocking and Backing: All blocking and backing in walls and ceilings shall be nominal 2-inch thick material of a depth as needed and shall be accurately located around light fixtures, ceiling registers, grilles, and other required mechanical and electrical items. The blocking shall fit snugly and shall be spiked into the supporting framing members. Wood blocking (backing) to receive sheathing, siding, metal lath, and gypsum board shall be provided wherever necessary for securing the facing materials.

- D. Backing for Specialties and Accessories: Backing shall be accurately located and installed for all building specialties, toilet accessories, and finish hardware items as required.
- E. Concrete-Embedded Blocks: Where required and approved, nominal 2-inch thick nailing blocks (dovetail type) shall be provided in concrete to receive superimposed wood stripping, grounds, and backing. Applied grounds or stripping shall be securely nailed into wood nailing blocks, using nails of approved length.
- F. Plywood Sheathing: Plywood sheathing shall be installed with face grain across supports and end joints shall be over joists and shall be staggered. Blocking shall be provided at all unsupported edges.
- G. Fire Stops: Fire stops shall be not less than 2-inch nominal thickness and of the same width as the studs. Strips of full-thickness fiber glass or rock wool shall be installed around pipes, ducts, conduits, and other penetrations through fire stops.
- H. Sleepers: All sleepers for mechanical equipment and curb openings shall be provided and coordinated with appropriate trades for locations and sizes. Sleepers shall be ripped to conform to roof slope if necessary.

**** END OF SECTION ****

SECTION 07 01 90.71

JOINT SEALANT REHABILITATION

PART 1 - GENERAL

1.01 SCOPE

- A. The CONTRACTOR shall provide joint sealants, bond breaker and compression seals for the Work, complete and in accordance with the Contract Documents.

1.02 RELATED SECTIONS

- A. The Work of the following Sections applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.
 - 1. Section 03 64 00 Injection Grouting

1.03 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

- A. Except as otherwise indicated in this Section of the Specifications, the CONTRACTOR shall comply with the latest adopted edition of the Standard Specifications for Public Works Construction (SSPWC), together with the latest adopted editions of the City of San Diego Supplement Amendments.
- B. The Work of this Section shall comply with the current edition of the California Building Code as adopted by the City of San Diego.
- C. Except as otherwise indicated, the current editions of the following apply to the Work of this Section:
 - 1. Federal Specifications:
 - a. A-A-272 Sealing Compound-Single Component Butyl Rubber for Buildings and Other Construction.
 - 2. ASTM Standards:
 - a. ASTM C 719 Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants Under Cyclic Movement.
 - b. ASTM C 790 Recommended Practices for Use of Latex Sealing Compounds.
 - c. ASTM C 834 Specification for Latex Sealant Compounds.
 - d. ASTM C 919 Practice for Use of Sealants in Acoustical Applications.
 - e. ASTM C 920 Specification for Elastomeric Joint Sealants.
 - f. ASTM C 962 Guide for Use of Elastomeric Joint Sealants.
 - g. ASTM D 412 Test Methods for Rubber Properties in Tension.

- h. ASTM D 1056 Specification for Flexible Cellular Materials - Sponge or Expanded Rubber.
- i. ASTM D 2628 Specification for Preformed Polychloroprene Elastomeric Joint Seals for Concrete.

1.04 CONTRACTOR SUBMITTALS

- A. The following shall be submitted in compliance with Section 01 33 00, Submittal Procedures:
 - 1. Product Data: Manufacturer's recommended applications and technical data for each joint sealer product required, including instructions for joint preparation and joint sealer application.
 - 2. Samples for Initial Selection Purposes: Manufacturer's standard bead samples consisting of strips of actual products showing the full range of colors available, for each product exposed to view.
 - 3. Technical Data: The CONTRACTOR shall submit a complete materials list along with the manufacturer's technical data and literature, specifications, joint width and depth tables, and installation instructions.
 - 4. Certificates: The CONTRACTOR shall submit, if requested by the CONSTRUCTION MANAGER, certificates from an independent testing laboratory approved by the CONSTRUCTION MANAGER, certifying that the submitted materials meet all the requirements of the ASTM and Federal Specifications cited.
 - 5. Warranty: The CONTRACTOR shall provide a 5-year written warranty of the entire sealant installation against faulty and/or incompatible materials and workmanship, together with a statement that it agrees to repair or replace, to the satisfaction of the OWNER, at no additional cost to the OWNER, any such defective areas which become evident within said 5-year warranty period.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Delivery of Materials: Manufactured materials shall be delivered in original, unbroken packages or containers bearing the manufacturer's label. Packages or containers shall be delivered to the site with seals unbroken. Manufacturer's labels shall bear name of manufacturer, product name and designation, color, expiration period for use, pot life, curing time and mixing instructions for multi-component materials.
- B. Storage: All materials shall be carefully stored in an area that is protected from deleterious elements and in a manner recommended by the product manufacturer. Storage and handling of materials shall be in such a manner as to prevent deterioration or damage due to moisture, temperature changes, contaminants or other causes.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Manufacturer's Recommendations: Only products recommended for the specific application indicated shall be used.
- B. Single Source Responsibility: All joint sealer materials for a specific application shall be obtained from a single manufacturer.
- C. Compatibility: Joint sealers, joint fillers, and other related materials shall be provided which are compatible with one another and with joint substrates under the indicated conditions of service and application, as demonstrated by manufacturer's testing and field experience.
- D. Colors: Colors of exposed joint sealers shall be provided as indicated or, if not otherwise indicated, as selected by the CONSTRUCTION MANAGER from the manufacturer's standard colors.

2.02 ELASTOMERIC JOINT SEALANTS

- A. Elastomeric Sealant Standards: The manufacturer's standard chemically curing elastomeric sealant shall be of base polymer indicated which complies with ASTM C 920 requirements, including those for Type, Grade, Class and Uses.
 - 1. Two-Part Water Immersion Polysulfide or Polyurethane Sealant: Type M; Grade NS; Class 25; Uses T, M, G, A, and Federal Specification TT-S-00227E, Type II, Class A, as applicable to the joint substrates indicated, and with a history of successful field experience in sealing joints immersed intermittently or continuously in water and approved for potable water application by NSF 61.
 - 2. Manufacturers:
 - a. Sikaflex 2cNS ezMix
 - b. Or approved equal

2.03 SOLVENT RELEASE CURING JOINT SEALANTS

- A. Acrylic Sealant: Manufacturer's standard one-part, nonsag, solvent release curing, acrylic terpolymer sealant complying with ASTM C 920 for Type S; Grade NS; Uses NT, M, G, A, and, as applicable to joint substrates indicated, Use O; except for selected test properties which are revised as follows:
 - 1. Heat aged hardness - 40 to 50
 - 2. Weight loss - 15 percent
 - 3. Maximum cyclic movement capability - plus or minus 7-1/2 percent (Class)
- B. Butyl Sealant: Manufacturer's standard one-part, nonsag, solvent release curing, polymerized butyl sealant complying with Federal Specification A-A-227 for Type I

and formulated with minimum of 75 percent solids to be nonstaining, paintable, and have a tack-free time of 24 hours or less.

- C. Pigmented Small Joints Sealant: Manufacturer's standard, solvent release curing, pigmented, synthetic rubber sealant formulated for sealing joints 3/16-inch or smaller in width.

2.04 COMPRESSION SEALS

- A. Preformed Foam Sealant: The manufacturer's standard preformed, precompressed, impregnated open-cell foam sealant manufactured from high-density urethane foam impregnated with a nondrying, water repellent agent; factory-produced in precompressed sizes and in roll or stick form to fit joint widths indicated and to develop a watertight and airtight seal when compressed to the degree specified by the manufacturer. Provide products which are permanently elastic, mildew-resistant, non-migratory, nonstaining, compatible with joint substrates and other joint sealers, and comply with the following requirements:
 - 1. Impregnating agent: Manufacturer's standard
 - 2. Density: Manufacturer's standard
 - 3. Backing: Pressure sensitive adhesive, factory applied to one side, with protective wrapping or coated on one face with release agent serving as bond breaker for primary joint sealant.
- B. Preformed Hollow Neoprene Gasket: Manufacturer's standard preformed polychloroprene elastomeric joint seal of the open-cell compression type complying with ASTM D 2628 and with requirements indicated for size, profile and cross-section design.

2.05 JOINT SEALANT BACKING

- A. General: Provide sealant backings of material and type which are non-staining; are compatible with joint substrates, sealants, primers and other joint fillers.
- B. Plastic Foam Joint-Fillers: Preformed, compressible, resilient, non-waxing, non-extruding strips of plastic foam of either flexible, open cell polyurethane foam or non-gassing, closed-cell polyethylene foam, subject to sealant manufacturer's approval; and of size, shape and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape as recommended by the sealant manufacturer for preventing bond between sealant and joint filler or other materials at the back or third surface of the joint. Provide self-adhesive tape where applicable.
- D. Elastomeric Tubing Joint Fillers: Neoprene, butyl or EPDM tubing complying with ASTM D 1056, non-absorbent to water and gas, capable of remaining resilient at temperatures down to minus 26 degrees F. Provide products with low

compression set and of size and shape to provide a secondary seal, to control sealant depth and otherwise contribute to optimum sealant performance.

2.06 MISCELLANEOUS MATERIALS

- A. Primer: The CONTRACTOR shall provide primers recommended by the joint sealer manufacturer where required for adhesion of sealant to joint substrates indicated.
- B. Cleaners for Nonporous Surfaces: The CONTRACTOR shall provide non-staining, chemical cleaner of a type acceptable to manufacturer of the sealant and sealant backing materials which are not harmful to substrates and adjacent nonporous materials.
- C. Masking Tape: The CONTRACTOR shall provide non-staining, non-absorbent type tape compatible with joint sealants and with surfaces adjacent to joints.

2.07 MANUFACTURERS

- A. The CONTRACTOR shall provide products of the type indicated shall be manufactured by one of the following (or approved equal):
 - 1. Two-Part Nonsag Polysulfide or Polyurethane Sealant Immersion Service
 - a. Sikaflex 2cNS ezMix.
 - b. Or approved equal
 - 2. Butyl-Polyisobutylene Tape Sealant
 - a. Pecora Corp., [Extru-Seal Tape]
 - b. Protective Treatments, Inc., [PTI 606]
 - 3. Compression Seals
 - a. Emseal Corp., [Emseal Greyflex]
 - b. Illbruck, [Will-Seal Tape Type 250]
 - c. Sandell Manufacturing Co., Inc., [Polytite Standard]
 - 4. Preformed Hollow-Neoprene Gasket
 - a. Acme Highway Products Corp.
 - b. Watson Bowman Associates, Inc.

PART 3 - EXECUTION

3.01 PROJECT CONDITIONS

- A. Environmental Conditions
 - 1. CONTRACTOR shall not proceed with installation of joint sealers under the following conditions:
 - a. When ambient and substrate temperature conditions are outside the limits permitted by the joint sealer manufacturers.

- b. When joint substrates are wet due to rain, frost, condensation, or other causes.
- B. Joint Width Conditions: Installation of joint sealers shall not proceed when joint widths are less than, or more than, allowed by the joint sealer manufacturer for the application indicated.

3.02 PREPARATION

- A. Surface Cleaning of Joints: All joints shall be cleaned out immediately before installing joint sealers to comply with recommendations of joint sealer manufacturers and the following requirements:
 - 1. All foreign material shall be removed from joint substrates which could interfere with adhesion of joint sealer, including dust; paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer) oil; grease; waterproofing; water repellents; water, and surface dirt.
 - 2. Concrete, masonry, unglazed surfaces of ceramic tile and similar porous joint substrate surfaces shall be cleaned by brushing, grinding, blast cleaning, mechanical abrading, acid washing or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealers. Loose particles remaining from the above cleaning operations shall be removed by vacuuming or blowing out joints with oil-free compressed air.
 - 3. Laitance and form release agents shall be thoroughly removed from all concrete surfaces.
 - 4. Metal, glass, porcelain enamel, glazed surfaces of ceramic tile and other non-porous surfaces shall be cleaned with chemical cleaners or other means which are not harmful to substrates or leave residues capable of interfering with adhesion of joint sealers.
- B. Joint Priming: Joint substrates shall be primed where indicated or where recommended by joint sealer manufacturer. Primer shall be applied so as to comply with joint sealer manufacturer's recommendations. Primers shall be confined to areas of joint sealer bond. Spillage or migration onto adjoining surfaces shall not be allowed.
- C. Filler material shall be resilient, closed-cell polyethylene foam conforming to ASTM D 1752, Type II or III, and/or bond breakers of proper size for joint widths. Filler shall be compatible with sealant manufacturer's product and shall not stain the sealant nor the materials to which they are applied.
- D. Primer shall be used in accordance with manufacturer's instructions, with all primers being applied prior to the installation of any backer rod or bond breaker tape. Primers shall be as recommended in the manufacturers printed instructions for caulking and sealants and shall not stain the sealant nor the materials to which

they are applied. Manufacturer shall be consulted for all surfaces not specifically covered in submittal application instructions.

- E. Masking Tape: Masking tape shall be used where required to prevent contact of sealant with adjoining surfaces which otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Tape shall be removed immediately after tooling without disturbing joint seal.

3.03 INSTALLATION

A. General

- 1. Unless otherwise indicated, comply with joint sealer manufacturers' printed installation instructions.

B. Elastomeric Sealant Installation Standard

- 1. Comply with recommendations of ASTM C 962 for use of joint sealants as applicable to materials, applications and conditions indicated.

C. Solvent-Release-Curing Sealant Installation Standard

- 1. Comply with requirements of ASTM C 804 for use of solvent-release-curing sealants.

D. Latex Sealant Installation Standard

- 1. Comply with requirements of ASTM C 790 for use of latex sealants.

E. Acoustical Sealant Application Standard

- 1. Comply with recommendations of ASTM C 919 for use of joint sealants in acoustical applications as applicable to materials, applications and conditions indicated.

F. Installation of Sealant Backings

- 1. Install sealant backings to comply with the following requirements:
 - a. Install joint-fillers of the types indicated to provide support of sealants during application and at position necessary to produce the required cross-sectional shapes and depths.
 - (1) Do not leave gaps between ends of joint-fillers.
 - (2) Do not stretch, twist, puncture or tear joint-fillers.
 - (3) Remove absorbent joint-fillers which have become wet prior to sealant application and replace with dry material.
 - b. Install bond breaker tape between sealants and joint-fillers, compression seals or back of joints, where required to prevent third-side adhesion of sealant to back of joint.
 - c. Install compressible seals serving as sealant backings to comply with requirements indicated above for joint-fillers.

- G. Installation of Sealants
 - 1. Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration and providing uniform, cross-sectional shapes and depths relative to joint widths which allow optimum sealant movement capability.
- H. Tooling of Nonsag Sealants
 - 1. Immediately after sealant application and prior to time skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated to eliminate air pockets and to ensure contact and adhesion of sealant with sides of joint. Remove excess sealants from surfaces adjacent to joint. Do not use tooling agents which discolor sealants or adjacent surfaces or are not approved by the sealant manufacturer.
 - a. Concave joint configuration per Figure 6A in ASTM C 962, unless otherwise indicated.
 - c. Flush joint configuration per Figure 6B in ASTM C 962, where indicated.
 - d. Recessed joint configuration per Figure 6C in ASTM C 962, of recess depth and at locations indicated.
 - (1) Where necessary, use masking tape to protect adjacent surfaces of tooled joints.
- I. Installation of Preformed Foam Sealants: Install each length of sealant immediately after removing protective wrapping, taking care not to pull or stretch material, and complying with sealant manufacturer's directions for installation methods, materials and tools which produce seal continuity at ends, turns, and intersections of joints. For applications at low ambient temperatures where expansion of sealant requires acceleration to produce seal, apply heat to sealant in conformance with sealant manufacturer's recommendations.
- J. Installation of Preformed Hollow Neoprene Gaskets: Install gaskets, with minimum number of end joints, in joint recesses with edges free of spalls and sides straight and parallel, both within tolerances specified by gasket manufacturer. Apply manufacturer's recommended adhesive to joint substrates immediately prior to installing gaskets. For straight sections provide gaskets in continuous lengths; where changes in direction occur, adhesively splice gasket together to provide watertight joints. Recess gaskets below adjoining surfaces by 1/8 inch to 1/4 inch.

3.04 PROTECTION AND CLEANING

- A. Protect joint sealers during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they are without deterioration or damage at time of substantial completion. If, despite such protection, damage or deterioration occurs, cut out and remove

damaged or deteriorated joint sealers and reseal joints with new materials to produce installations with repaired areas indistinguishable from original work.

- B. Clean off excess sealants or sealant smears adjacent to joints as Work progresses, by methods and with cleaning materials approved by manufacturers of joint sealers and of products in which joints occur.

**** END OF SECTION ****

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 09 01 90

MAINTENANCE OF PAINTING AND COATING

PART 1 - GENERAL

1.01 SCOPE

- A. The CONTRACTOR shall provide protective coatings, including qualified independent third-party testing, complete and in place, in accordance with the Contract Documents.
- B. Definitions:
 - 1. The term "paint," "coatings," or "finishes" as used herein, shall include surface treatments, emulsions, enamels, paints, epoxy resins, and all other protective coatings, excepting galvanizing or anodizing, whether used as a pretreatment, primer, intermediate coat, or finish coat.
 - 2. The term "DFT" means minimum dry film thickness.
- C. The following surfaces shall not be protective coated unless specifically indicated in other Sections or on the Drawings.
 - 1. Travelling bridge.
 - 2. Stainless steel.
 - 3. Machined surfaces.
 - 4. Grease fittings.
 - 5. Glass.
 - 6. Equipment nameplates.
 - 7. Platform gratings, stair treads, door thresholds, and other walking surfaces.
 - 8. Plastic and fiberglass surfaces
 - 9. Embedded steel in concrete.
 - 10. Factory pre-finished surfaces with baked-on enamel, porcelain, polyvinylidene fluoride or other similar heat-applied factory finish.
- D. The coating system schedules summarize the surfaces to be coated, the required surface preparation, and the coating systems to be applied. Coating notes on the Drawings are used to show exceptions to the schedules, to show or extend the limits of coating systems, or to clarify or show details for application of the coating systems.

1.02 RELATED SECTIONS

- A. The Work of the following Sections applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.
1. Section 01 25 00 Substitution Procedures
 2. Section 01 33 00 Submittal Procedures
 3. Section 03 01 30.71 Rehabilitation of Cast-in-Place Concrete
 4. Section 03 64 00 Injection Grouting
 5. Section 07 01 90.71 Joint Sealant Rehabilitation
- B. Concrete Surfaces: Concrete dampproofing and waterproofing shall be coated in accordance with applicable sections in Division 3 - Concrete. All other concrete surfaces shall be coated as indicated in this Section.

1.03 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

- A. Except as otherwise indicated, the current editions of the following apply to the Work of this Section:
1. References herein to "SSPC Specifications" or "SSPC" shall mean the published standards of SSPC, the Society for Protective Coatings (now combined with NACE International under the new umbrella organization Association for Materials Protection and Performance (AMPP)).
 2. References herein to "NACE" shall mean the published standards of the NACE International (now combined with SSPC under the new umbrella organization Association for Materials Protection and Performance (AMPP)).
 3. References herein to "ANSI/AWWA" shall mean the published standards of the American Water Works Association including:
 - a. ANSI/AWWA C205 Cement-Mortar Protective Lining and Coating for Steel Water Pipe B 4 in. (100mm) and Larger - Shop Applied.
 - b. ANSI/AWWA C210 Liquid Epoxy Coating Systems for the Interior and Exterior of Steel Water Pipelines.
 - c. ANSI/AWWA C213 Fusion-Bonded Epoxy Coating for the Interior.
 4. Federal Specifications:
 - a. OSHA 1910.144 Safety Color Code for Marking Physical Hazards
 5. National Sanitation Foundation "NSF," Standard 61 for Contact with Drinking Water.
 6. ASTM Standards:

- a. C-309 Liquid Membrane-Forming Compounds for Curing Concrete.
 - b. ASTM C 868 Standard Test Method for Chemical Resistance of Protective Linings.
 - c. ASTM C 1583/1583M Standard Test Method for Tensile Strength of Concrete Surfaces and the Bond Strength or Tensile Strength of Concrete Repair and Overlay Materials by Direct Tension (Pull-off Method).
 - d. ASTM D 2794 Standard Test Method for Resistance of Organic Linings to the Effects of Rapid Deformation (Impact).
 - e. ASTM D 4060 Standard Test Method for Abrasion Resistance of Organic Linings by the Taber Abraser.
 - f. ASTM D 4285 Standard Test Method for Indicating Water or Oil in Compressed Air.
 - g. ASTM D 4263 Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method.
 - h. ASTM D 4414 Standard Practice for Measurement of Wet Film Thickness by Notch Gages.
 - i. ASTM D4541, Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers.
 - j. ASTM D 6944 Standard Test Method for Measuring Humidity with a Psychrometer.
 - k. ASTM D 7682 Standard Test Method for Replication and Measurement of Concrete Surface Profiles Using Replica Putty.
 - l. ASTM F 1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
 - m. ASTM F 2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.
 - n. ASTM F 2414 Standard Practice for Sealing Sewer Manholes Using Chemical Grouting.
7. ICRI Guidelines:
- a. Technical Guideline No.03732, "Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays
8. Regulatory Agency Requirements: Coatings for surfaces in contact with raw or potable water shall impart no taste or odor to the water nor result in any organic or inorganic content in excess of the maximum contaminant level established by applicable laws or regulations including NSF Standards. All coatings shall be approved by the San Diego Air Pollution Control District. The CONTRACTOR shall revise painting systems specified herein to provide manufacturer's regulatory agency approved coating system where required. All painting systems shall be VOC compliant.
- B. The Work of this Section shall comply with the current edition of the California Building Code as adopted by the City of San Diego.

- C. Inspection records of shop or field-applied coatings and linings for buried or submerged items shall be submitted within 15 days after the work has been accepted.

1.04 CONTRACTOR SUBMITTALS

- A. General: Submittals shall be furnished in accordance with Section 01 33 00, Submittal Procedures, unless indicated otherwise below.
- B. Submit qualifications of independent third-party testing for holiday testing and adhesion testing for approval. Independent third-party testing shall have appropriate AMPP certifications demonstrating experience and expertise in the testing, quality control and quality assurance of applied coatings.
- C. Submittals shall include the following information and be submitted at least 30 days before protective coating work:
 - 1. Coating Materials List: A coating materials list showing the Manufacturer and the coating number, keyed to the coating systems herein. The list shall be submitted before or at the time of submittal of samples.
 - 2. Coating Manufacturer's Information: For each coating system to be used, the following data:
 - a. Coating manufacturer's data sheet for each product proposed, including statements on the suitability of the material for the intended use.
 - b. Technical and performance information that demonstrates compliance with the system performance and material requirements.
 - c. Paint manufacturer's instructions and recommendations on surface preparation and application.
 - d. Proposed application techniques including proof of the acceptability of the proposed technique for each coating.
 - e. Colors available for each product (where applicable).
 - f. Compatibility of shop and field applied coatings (where applicable).
 - g. Material Safety Data Sheet for each product used.
 - h. Qualification Data: Approved Installer Training Certificates from coating manufacturer.
 - i. Coating Reference Documentation: For the proposed coating system, the CONTRACTOR shall submit reference documentation from the coating manufacturer of similar installations, in potable water applications, which have been in service for more than five (5) years. Reference documentation shall include installation location/details, installation date, current owner contact information, and contractor/applicator contact information.
 - j. Construction Details: Copies of manufacturer's computer generated standard lining details for specified materials, including: leading edge termination, metal embedment in concrete, joint

detail, wall-to-slab detail, pipe termination detail, and any other detail at the request of the Engineer.

- k. Maintenance Manual: Upon completion of the Work, submit five copies of corrosion protection lining manufacturer's written instructions for recommended maintenance practices. Include the following information:
 - (1) Product name and number.
 - (2) Name, address, e-mail address and telephone number of manufacturer and local representative.
 - (3) Detailed procedures for routine maintenance and cleaning.
 - (4) Detailed procedures for repairs.
- l. Product Substitution: The specified corrosion protection lining is the minimum standard of quality for this project. Equivalent materials of other manufacturers may be substituted only by approval of Engineer. Requests for material substitutions shall be in accordance with requirements of the project specification.
 - (1) Manufacturers of "or equal" products shall provide direct property comparison with the materials specified in addition to complying with all other requirements of these Specifications. "Or equal" products shall employ the same generic materials and system components as the corrosion protection lining specified. "Or equal" products shall provide equivalent performance as the specified corrosion protection lining.
 - (2) Bidders desiring to use corrosion protection lining other than those specified shall submit proposed system with their proposal at the time of bid, together with the information required herein.
 - (3) Bidders intending to propose an "or equal" product shall do so at the time of the bid and shall provide reference documentation from the proposed manufacturer of the product(s) at the time of bid. Reference documentation shall include a minimum of ten (10) similar installations, in potable water applications, which have been in service for more than ten (10) years in the southwest portions of the United States of America. Reference documentation shall include installation location/details, installation date, current owner contact information, and contractor/appliator contact information.
- m. Jobsite Reports: Submit at the completion of Work.
 - (1) Daily Reports: Include surface preparation, substrate conditions, ambient conditions application procedures, lining materials applied, material quantities, material batch number(s), description of work completed and location thereof.

- (2) Quality Control/Quality Assurance Reports: In accordance with Section 3.10. Include all quality control testing and physical specimens.
- (3) Contractor shall maintain a copy of records until the expiration of the specified warranty period.

1.05 SPECIAL CORRECTION OF DEFECTS REQUIREMENTS

- A. Warranty Inspection: A warranty inspection may be conducted during the eleventh month following completion of all coating and painting work. The CONTRACTOR and a representative of the coating material manufacturer shall attend this inspection. All defective work shall be repaired in accordance with these Specifications and to the satisfaction of the OWNER. The OWNER may, by written notice to the CONTRACTOR, reschedule the warranty inspection to another date within the 2-year correction period, or may cancel the warranty inspection altogether. If a warranty inspection is not held, the CONTRACTOR is not relieved of its responsibilities under the Contract Documents.

1.06 SERVICES OF MANUFACTURER

- A. For submerged and severe service coating systems, the CONTRACTOR shall require the paint manufacturer to furnish the following services:
 1. The manufacturer's representative shall furnish at least 6 hours of on-site instruction in the proper surface preparation, use, mixing, application and curing of the coating systems.
 2. The manufacturer's representative shall personally observe the start of surface preparation, mixing, and application of the coating materials.
 3. The manufacturer's representative shall provide technical support in the field to resolve field problems associated with manufacturer's products furnished under this Contract or the application thereof.

1.07 SAFETY AND HEALTH REGULATIONS

- A. General: In accordance with the requirements of OSHA Safety and Health Standards for Construction (29CFR1926) and the applicable requirements of regulatory agencies having jurisdiction, as well as manufacturer's printed instructions and appropriate technical bulletins and manuals, the CONTRACTOR shall provide and require use of personnel protective lifesaving equipment for persons working in or about the project site.
- B. Head and Face Protection and Respiratory Devices: Equipment shall include protective helmets which shall be worn by all persons while in the vicinity of the Work. In addition, workers engaged in or near the work during sandblasting shall wear OSHA approved eye and face protection devices and air purifying, halfmask or mouthpiece respirators. Barrier creams shall be used on any exposed areas of skin.
- C. Ventilation: Where ventilation is used to control hazardous exposure, all equipment shall be explosion-proof. Forced air ventilation shall be provided to reduce the

concentration of air contaminant to a safe limit. Air circulation and exhausting of solvent vapors shall be continued until coatings have fully cured.

- D. Sound Levels: Whenever the occupational noise exposure exceeds maximum allowable sound levels, the CONTRACTOR shall implement furnish and require the use of approved ear protective devices.
- E. Illumination: Adequate illumination shall be provided while Work is in progress, which may include explosion-proof lights, scaffolding and electrical equipment. Whenever required by the CONSTRUCTION MANAGER, the CONTRACTOR shall provide additional illumination to cover all areas to be inspected. The level of illumination for inspection purposes shall be determined by the CONSTRUCTION MANAGER.
- F. Temporary Ladders and Scaffolding: All temporary ladders and scaffolding shall conform to applicable safety requirements. They shall be erected where requested by the CONSTRUCTION MANAGER to facilitate inspection and shall be moved by the CONTRACTOR to locations as requested by the CONSTRUCTION MANAGER.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Suitability: Use suitable coating materials as recommended by the Manufacturer.
- B. Compatibility: In any coating system only compatible materials from a single Manufacturer shall be used in the Work. Particular attention shall be directed to compatibility of primers and finish coats. If necessary, a barrier coat shall be applied between existing prime coat and subsequent field coats to ensure compatibility.
- C. Containers: Coating materials shall be sealed in containers that plainly show the designated name, formula or specification number, batch number, color, date of manufacture, and name of manufacturer, all of which shall be plainly legible at the time of use.
- D. Colors: All colors and shades of colors of all coats of paint shall be as indicated or selected by the CONSTRUCTION MANAGER. Each coat shall be of a slightly different shade, to facilitate inspection of surface coverage of each coat. Finish colors shall be as selected from the manufacturer's standard color samples by the CONSTRUCTION MANAGER.
- E. Substitute or "Or-Equal" Products:
 - 1. To establish equality under Section 11 01 00, Operation and Maintenance of Equipment, the CONTRACTOR shall furnish satisfactory documentation from the manufacturer of the proposed substitute or "or-equal" product that

the material meets the indicated requirements and is equivalent or better in the following properties:

- a. Quality.
 - b. Durability.
 - c. Resistance to abrasion and physical damage.
 - d. Life expectancy.
 - e. Ability to recoat in future.
 - f. Solids content by volume.
 - g. Dry film thickness per coat.
 - h. Compatibility with other coatings.
 - i. Suitability for the intended service.
 - j. Resistance to chemical attack.
 - k. Temperature limitations in service and during application.
 - l. Type and quality of recommended undercoats and topcoats.
 - m. Ease of application.
 - n. Ease of repairing damaged areas.
 - o. Stability of colors.
2. Protective Coating Materials shall be standard products produced by recognized manufacturers who are regularly engaged in production of such materials for essentially identical service conditions. Where requested, provide the CONSTRUCTION MANAGER with the names of not less than 10 successful applications of the proposed manufacturer's products which comply with these requirements.
 3. The cost of all testing and analyzing proposed substitute products which may be required by the CONSTRUCTION MANAGER shall be paid by the CONTRACTOR at no additional cost to the OWNER. If a proposed substitution requires changes in the Work, bear all such costs involved and the costs of allied trades affected by the substitution at no additional cost to the OWNER.

2.02 INDUSTRIAL COATING SYSTEMS

- A. Material Sources: Each of the following manufacturers is capable of supplying many of the industrial coating materials indicated herein. Where manufacturers and paint numbers are listed, it is to show the type and quality of coatings that are required. Proposed substitute materials will be considered as indicated above. All industrial coating materials shall be materials that have a record of satisfactory performance in industrial plants, manufacturing facilities, and water and wastewater treatment plants.
 1. Tnemec Company
 2. Sika Corporation

2.03 COLORS AND FINISHES

- A. Surface treatments and finishes are shown under “Coating Systems” below. All substrates scheduled under “Coating Systems” shall be coated whether or not shown on the Drawings or in the Coating System Schedule, unless an item is specifically scheduled as not requiring one of the coating systems described in this Section.
- B. Color Selection
 - 1. In general, all color coding of piping, ducts and equipment shall comply with applicable standards of ANSI A13.1 and OSHA 1910.144.
- C. The CONSTRUCTION MANAGER will provide final acceptance of colors based on samples applied on the job. After approval of submittals but before the CONTRACTOR starts the coating work, the CONSTRUCTION MANAGER will furnish color schedules for surfaces to be coated in accordance with this Section. The CONSTRUCTION MANAGER reserves the right to select non-standard colors for all coating systems specified within the ability of the manufacturer to produce such non-standard colors. Selection of non-standard colors shall not be cause for CONTRACTOR rejecting the CONSTRUCTION MANAGER’s color selections and CONTRACTOR shall supply such colors at no additional expense to OWNER.
- D. Color Pigments: Color pigments shall be pure, nonfading, applicable types to suit the substrates and service indicated. Lead content shall not exceed amount permitted by federal, state and local government laws and regulations.

2.04 COATING SYSTEMS

- A. Materials Sources: The manufacturers' products listed in this paragraph are materials which satisfy the material descriptions of this paragraph and have a documented successful record for long term submerged or severe service conditions. Proposed substitute products will be considered as indicated above.
- B. *System No. 3 - Epoxy, Steel:* High build, amine-cured, epoxy resin shall have a solids content of at least 98% by volume and shall be suitable for long-term immersion service in potable water. For potable water service, the coating material shall be certified by NSF International in accordance with NSF/ANSI/CAN Std. 61 and the extraction requirements of NSF/ANSI/CAN 600.
 - 1. Prime Coating (DFT = 4 to 6 mils), Tnemec Series V140F Pota-Pox, Sika epoxy coating is self-priming, or approved equal.
 - 2. Stripe Coat (DFT = 4 to 6 mils), Tnemec Series V140F Pota-Pox, Sikaguard 62, or equal. Hand painted (stripe coat) on after primer to sharp edges (sharp corners, bolts, nuts, etc.)
 - 3. Epoxy Coating (1 or more of contrasting colors, DFT = 20 to 25 mils), Tnemec Series 22 Epoxoline, Sikagard 62, or approved equal.
 - 4. For coating of valves and equipment, DFT = 25 mils.

- C. *System No. 7 - Epoxy, Concrete*: The coating material shall be a 98% solids polyamine-cured epoxy material suitable for long-term immersion in water and for service where subjected to occasional splash and spillage of water treatment chemicals. Epoxy shall be certified by NSF International in accordance with NSF/ANSI/CAN Std. 61 and the extraction requirements of NSF/ANSI/CAN 600. The repair mortar shall be a rapid curing cementitious Portland cement base material as listed in Section 03 01 30.71, Rehabilitation of Cast-in-Place Concrete.
1. Epoxy Coating (1 or more, DFT = 20 to 25 mils), Tnemec Series 22 Epoxoline, Sikagard 62, or approved equal. Coats shall be of contrasting colors. Colors shall be approved by the OWNER.

2.05 COATING SYSTEM SCHEDULE

<u>Item</u>	<u>Surface Prep.</u>	<u>System No.</u>
Surfaces of piping and equipment and ferrous surfaces submerged or intermittently submerged in potable water and all surfaces inside enclosed hydraulic structures and vents (excluding shop-coated valves, couplings, pumps).	Near-White metal blast cleaning SSPC-SP10	(3) epoxy, steel
Above-grade concrete, submerged and non-submerged	Per paragraph 3.07	(7) epoxy, concrete
Below-grade concrete, submerged, potable water	Per paragraph 3.07	(7) epoxy, concrete
Steel fittings and surfaces where indicated	Near-white blast cleaning SSPC-SP10	(3) epoxy, steel

PART 3 - EXECUTION

3.01 WORKMANSHIP

- A. Skilled craftsmen and experienced supervision shall be used on all Work. The CONTRACTOR performing coating work must provide applicators whom possess SPCC- QP 8 accreditation through the Association for Materials Protection and Performance (AMPP)..
- B. Coating shall be done in a workmanlike manner so as to produce an even film of uniform thickness. Edges, corners, crevices, and joints shall receive special attention to insure thorough cleaning and an adequate thickness of coating material. The finished surfaces shall be free from runs, drops, ridges, waves, laps, brush marks, and variations in color, texture, and finish. The hiding shall be so complete that the addition of another coat would not increase the hiding. Special attention shall be given to ensure that edges, corners, crevices, welds, and similar

areas receive a film thickness equivalent to adjacent areas, and installations shall be protected by the use of drop cloths or other precautionary measures.

- C. All damage to surfaces resulting from the Work shall be cleaned, repaired, and refinished to original condition.

3.02 STORAGE, MIXING, AND THINNING OF MATERIALS

- A. **Manufacturer's Recommendations:** Unless otherwise indicated, the coating manufacturer's printed recommendations and instructions for thinning, mixing, handling, applying, and protecting its coating materials, for preparation of surfaces for coating, and for all other procedures relative to coating shall be strictly observed.
- B. All protective coating materials shall be used within the manufacturer's recommended shelf life.
- C. **Storage and Mixing:** Coating materials shall be stored under the conditions recommended by the Material Safety Data Sheets, and shall be thoroughly stirred, strained, and kept at a uniform consistency during application. Equipment for plural mixing of coating components shall have calibration documentation verifying the proper volume and quantity of mixed components in the applied coating. Coatings of different manufacturers shall not be mixed together.

3.03 PREPARATION FOR COATING

- A. **General:** All surfaces to receive protective coatings shall be cleaned as indicated before application of coatings. Examine all surfaces to be coated, and correct surface defects before application of any coating material. All marred or abraded spots on shop-primed and on factory-finished surfaces shall receive touch-up restoration before any coating application. Surfaces to be coated shall be dry and free of visible dust.
- B. **Protection of Surfaces Not to be Coated:** Surfaces which are not to receive protective coatings shall be protected during surface preparation, cleaning, and coating operations.
- C. All hardware, lighting fixtures, switchplates, machined surfaces, couplings, shafts, bearings, nameplates on machinery, and other surfaces not to be painted shall be removed, masked or otherwise protected. Drop cloths shall be provided to prevent coating materials from falling on or marring adjacent surfaces. The working parts of all mechanical and electrical equipment shall be protected from damage during surface preparation and coating operations. Openings in motors, including moisture weep holes, shall be masked to prevent entry of coating or other materials.
- D. Care shall be exercised not to damage adjacent work during blast cleaning operations. Spray painting shall be conducted under carefully controlled conditions. The CONTRACTOR shall be fully responsible for and shall promptly

repair any and all damage to adjacent work or adjoining property occurring from blast cleaning or coating operations.

- E. Protection of Painted Surfaces: Cleaning and coating shall be coordinated so that dust and other contaminants from the cleaning process will not fall on wet, newly coated surfaces.

3.04 SURFACE PREPARATION STANDARDS

- A. The following referenced surface preparation specifications of SSPC: The Society for Protective Coatings (now the Association for Materials Protection and Performance (AMPP)).. shall form a part of this specification:
 1. Solvent Cleaning (SSPC-SP1): Removal of oil, grease, soil, salts, and other soluble contaminants by cleaning with solvent, vapor, alkali, emulsion, or steam.
 2. Hand Tool Cleaning (SSPC-SP2): Removal of loose rust, loose mill scale, loose paint, and other loose detrimental foreign matter, by hand chipping, scraping, sanding, and wire brushing.
 3. Power Tool Cleaning (SSPC-SP3): Removal of loose rust, loose mill scale, loose paint, and other loose detrimental foreign matter, by power tool chipping, descaling, sanding, wire brushing, and grinding.
 4. White Metal Blast Cleaning (SSPC-SP5): Removal of all visible rust, oil, grease, soil, dust, mill scale, paint, oxides, corrosion products and foreign matter by blast cleaning.
 5. Commercial Blast Cleaning (SSPC-SP6): Removal of all visible oil, grease, soil, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter, except that staining shall be limited to no more than 33 percent of each square inch of surface area.
 6. Brush-Off Blast Cleaning (SSPC-SP7): Removal of all visible oil, grease, soil, dust, loose mill scale, loose rust, and loose paint.
 7. Near-White Blast Cleaning (SSPC-SP10): Removal of all visible oil, grease, soil, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter, except that staining shall be limited to no more than 5 percent of each square inch of surface area.
 8. Surface Preparation of Concrete (SSPC-SP13): Concrete surface shall be free of contaminants, laitance, loosely adhering concrete and dust, and should provide a sound, uniform substrate suitable for the application of protective coating or lining systems.

3.05 METAL SURFACE PREPARATION (UN GALVANIZED)

- A. The minimum abrasive blasting surface preparation shall be as indicated in the coating system schedules included at the end of this Section. Where there is a conflict between these Specifications and the coating manufacturer's printed recommendations for the intended service, the higher degree of cleaning shall apply.

- B. Workmanship for metal surface preparation shall be in conformance with the current SSPC Standards and this Section. Blast cleaned surfaces shall match the standard samples available from the National Association of Corrosion Engineers, NACE Standard TM-01-70 - Visual Standard for Surfaces of New Steel Airblast Cleaned with Sand Abrasive and TM-01-75 - Visual Standard for Surfaces of New Steel Centrifugally Blast Cleaned with Steel Grit.
- C. All oil, grease, welding fluxes, and other surface contaminants shall be removed by solvent cleaning per SSPC-SP1 - Solvent Cleaning before blast cleaning.
- D. All sharp edges shall be rounded or chamfered and all burrs, and surface defects and weld splatter shall be ground smooth before blast cleaning.
- E. The type and size of abrasive shall be selected to produce a surface profile that meets the coating manufacturer's recommendation for the particular coating and service conditions. Abrasives for submerged and severe service coating systems shall be clean, hard, sharp cutting crushed slag. Automated blasting systems shall not be used for surfaces that will be in submerged service. Metal shot or grit shall not be used for surfaces that will be in submerged service, even if subsequent abrasive blasting is planned to be one with hard, sharp cutting crushed slag.
- F. The abrasive shall not be reused unless an automated blasting system is used for surfaces that will be in nonsubmerged service. For automated blasting systems, clean oil-free abrasives shall be maintained. The abrasive mix shall include at least 50 percent grit.
- G. Comply with the applicable federal, state, and local air pollution control regulations for blast cleaning.
- H. Compressed air for air blast cleaning shall be supplied at adequate pressure from well-maintained compressors equipped with oil and moisture separators which remove at least 95% of the contaminants.
- I. Surfaces shall be cleaned of all dust and residual particles of the cleaning operation by dry air blast cleaning, vacuuming, or another approved method before painting.
- J. Enclosed areas and other areas where dust settling is a problem shall be vacuum cleaned and wiped with a tack cloth.
- K. Damaged or defective coating shall be removed by the specified blast cleaning to meet the clean surface requirements before recoating.
- L. If the specified abrasive blast cleaning will damage adjacent work, the area to be cleaned is less than 100 square feet, and the coated surface will not be submerged in service, then SSPC-SP2 - Hand Tool Cleaning or SSPC-SP3 - Power Tool Cleaning, may be used.
- M. Shop-applied coatings of unknown composition shall be completely removed before the indicated coatings are applied. Valves, castings, ductile or cast iron pipe, and fabricated pipe or equipment shall be examined for the presence of shop-

applied temporary coatings. Temporary coatings shall be completely removed by solvent cleaning per SSPC-SP1 before the abrasive blast cleaning work has been started.

- N. Shop primed equipment shall be solvent cleaned in the field before finish coats are applied.

3.06 SURFACE PREPARATION FOR GALVANIZED FERROUS METAL

- A. Galvanized ferrous metal shall be alkaline cleaned per SSPC-SP1 to remove oil, grease, and other contaminants detrimental to adhesion of the protective coating system to be used.
- B. Pretreatment coatings of surfaces shall be in accordance with the printed recommendations of the coating manufacturer.

3.07 SURFACE PREPARATION FOR CONCRETE

- A. The initial surface has been high-pressure hydro-blasted and prepared to ICRI CSP 9-10 surface profile. Prepare surfaces of the repaired concrete by mechanically preparing in accordance with SSPC-SP13/NACE No. 6, ICRI-CSP 4-5 surface profile. This ensure complete removal of the weak upper laitance layer and create the necessary surface amplitude for top coating.

3.08 APPLICATION OF COATINGS

- A. Application of the epoxy coating shall not start until all surfaces of the concrete have been resurfaced, properly cured, and mechanically prepared in accordance with SSPC-SP13/NACE No. 6, ICRI-CSP 4-5 surface profile.
- B. The application of protective coatings to steel substrates shall be in accordance with SSPC-PA1 - Paint Application Specification No. 1.
- C. Cleaned surfaces and all coats shall be inspected before each succeeding coat. Schedule such inspection with the CONSTRUCTION MANAGER in advance.
- D. Blast cleaned ferrous metal surfaces shall be painted before any rusting or other deterioration of the surface occurs. Blast cleaning shall be limited to only those surfaces that can be coated in the same working day.
- E. Coatings shall be applied in accordance with the manufacturer's instructions and recommendations, and this Section, whichever has the most stringent requirements.
- F. Special attention shall be given to edges, angles, weld seams, flanges, nuts and bolts, and other places where insufficient film thicknesses are likely to be present. Use stripe painting for these areas.
- G. Special attention shall be given to materials which will be joined so closely that proper surface preparation and application are not possible. Such contact surfaces shall be coated before assembly or installation.

- H. Finish coats, including touch-up and damage repair coats shall be applied in a manner which will present a uniform texture and color matched appearance.
- I. Coatings shall not be applied under the following conditions:
 - 1. Temperature exceeding the manufacturer's recommended maximum and minimum allowable.
 - 2. Surface in direct sunlight.
 - 3. Ascending temperatures (avoidance of outgassing of entrapped air).
 - 4. Dust or smoke laden atmosphere.
 - 5. Damp or humid weather.
 - 6. When the substrate or air temperature is less than 5 degrees F above dewpoint. This requirement holds during curing as well.
 - 7. When air temperature is expected to drop below 40 degrees F or less than 5 degrees F above the dewpoint within 8 hours after application of coating.
 - 8. When wind conditions are not calm.
- J. Dewpoint shall be determined by use of a sling psychrometer in conjunction with U.S. Department of Commerce, Weather Bureau psychrometric tables.
- K. Expansion Joint Termination: Carry protective coating to the joint and seal the termination at an expansion joint Sikaflex 2cNS ezMix sealant, or approved equal.
- L. Tie-in of New Coating Outside of Recoat Window: For this condition, manufacturers recommendations shall be followed. Typically, light abrasion of cured surface followed by an approved manufacturer's solvent wipe will suffice.
- M. Unburied steel piping shall be abrasive blast cleaned and primed before installation.

3.09 CURING OF COATINGS

- A. Maintain curing conditions in accordance with the conditions recommended by the coating material manufacturer or by this Section, whichever is the most stringent, before placing the completed coating system into service.
- B. In the case of enclosed areas, forced air ventilation, using heated air if necessary, may be required until the coatings have fully cured.

3.10 FIELD INSPECTION AND TESTING

- A. General: Furnish the CONSTRUCTION MANAGER a minimum of 3 days' advance notice of the start of any field surface preparation work or coating application work.
- B. All inspection, testing, and operation of inspection tools for field-applied coatings and linings shall be performed only in the presence of the CONSTRUCTION

MANAGER, unless the CONSTRUCTION MANAGER has granted prior approval to perform such Work in its absence.

- C. At no additional cost to the OWNER, the inspection shall be performed by a third-party inspection agency acceptable to the CONSTRUCTION MANAGER and certified in the inspection of coating and lining application procedures.
- D. Inspection by the CONSTRUCTION MANAGER, or the waiver of inspection of any particular portion of the Work, shall not relieve the CONTRACTOR of its responsibility to perform the Work in accordance with these Specifications.
- E. For external or internal application of lining or coating materials for buried or submerged piping systems, the CONTRACTOR shall supply inspection procedures for use by the CONSTRUCTION MANAGER. Procedures shall be supplied in advance of starting work.
- F. Inspection Devices: Furnish, until final acceptance of such coatings, inspection devices in good working condition for the detection of holidays and measurement of dry-film thicknesses of protective coatings. Dry-film thickness gauges shall be made available for the CONSTRUCTION MANAGER's use at all times while coating is being done, until final acceptance of such coatings. The CONTRACTOR shall furnish the services of a trained operator of the holiday detection devices until the final acceptance of such coatings. Qualifications for the third-party qualified operator of the holiday testing shall be submitted in accordance with Section 01 33 00, Submittal procedures. Holiday detection devices shall be operated only in the presence of the CONSTRUCTION MANAGER.
- G. Adhesion Testing of Coatings: Adhesion testing of coating to concrete substrate shall be performed in accordance with ASTM D4541-17, Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion testers and ASTM Test Method D7234-21, Standard Test Method for Pull-Off Adhesion Strength of Coating on Concrete Using Portable Pull-Off Adhesion Testers. CONTRACTOR shall use the calibration and adhesion values for the test from the manufacturer of the coating material. The area of the test must be covered with epoxy coating applied a minimum of 4-inches in all directions beyond the affected test area. Qualifications for the third-party qualified operator of the adhesion testing shall be submitted in accordance with Section 01 33 00, Submittal procedures. Adhesion testing shall meet the requirements of ASTM D4541-17 and ASTM D7234-21.
- H. Holiday Testing: Holiday testing is required of all finished, coated surfaces within Basin No. 1 to determine if any defects exist and map those areas for repair. Holiday test all coated surfaces within Basin No. 1 and all steel surfaces coated, other surfaces which will be submerged in water or other liquids, or surfaces which are enclosed in a vapor space in such structures and surfaces coated with any of the submerged and severe service coating systems. Areas which contain holidays shall be marked and repaired or recoated in accordance with the coating manufacturer's printed instructions and then retested at the CONTRACTOR's expense. Electrical inspection for linings and coatings shall be in accordance with applicable NACE standards SPO188 (conductive substrates) and/or SPO274.

1. Coatings With Thickness Exceeding 20 Mils: For surfaces having a total dry film coating thickness exceeding 20 mils: pulse-type holiday detector such as Tinker & Razor Model AP-W, D.E. Stearns Co. Model 14/20, or equal shall be used. The unit shall be adjusted to operate at the voltage required to cause a spark jump across an air gap equal to twice the specified coating thickness.
 2. Coatings With Thickness of 20 Mils or Less: For surfaces having a total dry film coating thickness of 20 mils or less: Tinker & Razor Model M1 nondestructive type holiday detector, K-D Bird Dog, or equal shall be used. The unit shall operate at less than 75 V. For thicknesses between 10 and 20 mils, a nonsudsing type wetting agent, such as Kodak Photo-Flo, or equal, shall be added to the water before wetting the detector sponge.
- I. Film Thickness Testing: On ferrous metals, the dry film coating thickness shall be measured in accordance with the SSPC "Paint Application Specification No. 2" using a magnetic-type dry film thickness gauge such as Mikrotest model FM, Elcometer model 111/1EZ, or equal. Each coat shall be tested for the correct thickness. No measurements shall be made until at least 8 hours after application of the coating. On nonferrous metals and other substrates, the coating thicknesses shall be measured at the time of application using a wet film gauge.
 - J. Surface Preparation: Evaluation of blast cleaned surface preparation work will be based upon comparison of the blasted surfaces with the standard samples available from the NACE, using NACE standards NACE No. 1 and NACE TM-01-74.
 - K. Third-Party Inspection: At no additional cost to the OWNER, the CONTRACTOR shall employ a NACE Level 3 certified quality assurance inspector for the inspection of surface preparation, coatings and linings during the course of the Work. The City shall also provide a NACE certified inspector (City Inspector) for the duration of the Work.
 - L. Hold Point Inspections: Hold Point inspections will be performed by the City and their designated third party inspectors (City Inspector). The Contractor's Quality Control team and crew foreman shall notify the City when the work has progressed to the point where the Hold Point inspection can be performed. The City will discuss with CONTRACTOR anything that may lead to rejection of work in progress. The City will apprise the CONTRACTOR of his conclusion regarding any testing that may be performed. No further work on the surface area undergoing Hold Point inspection shall be performed until the item inspected has been judged acceptable by the City's third-party inspector. The fact that the inspector may inadvertently overlook a deviation from some requirement of this Specification shall not constitute a waiver of the requirement or the CONTRACTOR's obligation to correct the condition, even if it is discovered after the fact. The following Hold Points are established for the surface preparation, concrete repair, and coatings application for this project:
 1. After abrasive blast cleaning, after blowdown or vacuum, and prior to application of repair materials and the first coat of lining material.

- a. All substrates on which abrasive blasting has been performed shall be inspected for degree of cleanliness, soundness, profile and uniformity of anchor pattern as required by the Specification.
 - b. Concrete surfaces shall be examined for bug holes, cracks, cavities, voids, and other defects. These defects shall be identified and categorized, and the degree of repair and resurfacing shall be determined.
 - c. Deficiencies shall be marked with chalk and corrected by the CONTRACTOR to the satisfaction of the City Inspector.
2. Hold Point following application of the prime coat of lining material and prior to application of the succeeding coat of lining material.
- a. All substrates which have received application of the prime coat of the coating material shall be examined by the City Inspector to determine that no contamination or inclusions of particles in the material has occurred.
 - b. Deficiencies shall be marked with chalk and corrected by the CONTRACTOR to the satisfaction of the Inspector.
3. Hold Point following completion of DFT repairs and / or Holiday Testing repairs in the final coat
- a. All substrates which have received the final coat and which have been examined and repaired by the CONTRACTOR's QCM or designated representative for non-conforming areas of low film thickness, blistering, dry spray, pinholes (holidays), embedded trash inclusions or other surface defects shall be examined by the City Inspector.
 - b. City Inspector shall determine conformance of film thickness requirements in accordance with SSPC-PA 2, except that readings will be taken at closer intervals to outline areas of non-conformance. Areas of film thickness lower than Specification minimum requirement will be marked and repaired by the Contractor application of additional lining material shall be in accordance with Coating Manufacturer' recommended re-coat times.
 - c. The City Inspector shall perform, or witness the Contractor perform, holiday testing over all surfaces of the applied coating material. Holiday testing shall be performed prior to final forced cure. The coating shall be 100% holiday free. Any defects detected shall be marked with chalk and repaired by the CONTRACTOR. Repairs shall be re-tested per the Specification requirements.
 - d. The City Inspector shall examine all surfaces of the lining material to determine that the surface is free from embedded contaminates. Any defects shall be marked with chalk and repaired by the CONTRACTOR.
- M. One Year Inspection: In addition to the independent, third-party inspection provided by the CONTRACTOR above, within the one-year acceptance period of the Work, Basin #1 shall be drained and re-inspected in the presence of the CONTRACTOR. The CONTRACTOR shall be given 30 calendar days advance

notice of this inspection. Insofar as may be possible, both the City and the CONTRACTOR will have available the same supervisory and inspection personnel as were present for the original work. This inspection group shall include a representative of the material manufacturer. CONTRACTOR shall, within 90 calendar days of this inspection, complete all required coating repair and deficiencies revealed during this inspection. All defective coatings shall be repaired by CONTRACTOR using coating materials, equipment and methods similar to those used in the original work. Materials shall be of fresh manufacture and within the manufacturer's stated shelf life at the time of application.

3.11 PROTECTION

- A. Protect work of other trades, whether to be painted or not, against damage by the painting and finishing Work. Leave all such work undamaged. Correct all damages by cleaning, repairing or replacing, and repainting, as acceptable to the CONSTRUCTION MANAGER.
- B. Provide "Wet Paint" signs as required to protect newly painted finishes. Remove all temporary protective wrappings provided for protection of this Contract and other contracts after completion of painting operations.

3.12 CLEAN-UP

- A. During the progress of Work, remove from the site all discarded paint materials, rubbish, cans and rags at the end of each work day.
- B. Upon completion of painting Work, clean window glass and all other paint-spattered surfaces. Remove spattered paint by proper methods of washing and scraping, using care not to scratch or otherwise damage finished surfaces.
- C. At the completion of Work of other trades, touch up and restore all damaged or defaced painted surfaces as determined by the CONSTRUCTION MANAGER.
- D. Upon completion of the Work, all staging, scaffolding, containers, and work related material or debris shall be removed from the site to the satisfaction of the City Resident Engineer. Coating or oil spots or stains on adjacent surfaces shall be removed and the job site cleaned. All damaged surfaces resulting from the Contractor's operations shall be cleaned, repaired, or refinished, to the satisfaction of the City Resident Engineer at no cost to the City.

**** END OF SECTION ****

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 11 01 00

OPERATION AND MAINTENANCE OF EQUIPMENT

PART 1 - GENERAL

1.01 SCOPE

- A. This Section describes general product requirements and product delivery, storage, and handling requirements.
- B. Products are defined as material, machinery, components, equipment, fixtures, and systems incorporated into and forming the Work.

1.02 RELATED SECTIONS

- A. The Work of the following Sections apply to Work of this Section. Work of other Sections of the Specifications, not referenced below, shall also apply to the extent required for proper performance of the Work.
 - 1. Section 01 33 00 Submittal Procedures
 - 2. Section 01 45 00 Quality Control
 - 3. Section 01 25 00 Substitution Procedures

1.03 SUBMITTALS

- A. Within 30 days after date established in Notice to Proceed, submit a complete list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. Submit Shop Drawings and other submittals as required elsewhere in the Specification.

1.04 PRODUCT DELIVERY

- A. CONTRACTOR shall arrange, with the United States Postal Service, a special address for the project. All deliveries shall be made to that address. No deliveries will be accepted by the OWNER.
- B. Arrange deliveries of products in accord with progress schedules and in sufficient time to facilitate inspection prior to installation.
- C. Coordinate deliveries to avoid conflict with Work and conditions at site and to accommodate the following:
 - 1. Work of other contractors, or OWNER.
 - 2. Limitations of storage space.
 - 3. Availability of equipment and personnel for handling products.

4. OWNER's use of premises.
- D. Products shall not be shipped from the manufacturer's or fabricator's facility or delivered to project site until related Shop Drawings, data sheets, shop or factory test reports and records, have been returned without objection by the CONSTRUCTION MANAGER.
- E. Shipments of materials to CONTRACTOR or subcontractors shall be delivered to the site only during regular working hours. Shipments shall be addressed and consigned to the proper party giving name of project, street number and city. Shipments shall not be delivered to OWNER.
- F. Products shall not be delivered to the site until required storage facilities have been provided and are ready to receive products for storage.
- G. Products shall be delivered to site in manufacturer's original, unopened, labeled containers. Keep CONSTRUCTION MANAGER informed of delivery of all equipment to be incorporated in the Work.
- H. Partial deliveries of component parts of equipment shall be clearly marked to identify the equipment, to permit easy accumulation of parts and to facilitate assembly.
- I. Immediately on delivery, inspect shipment to ensure:
1. Product complies with requirements of Contract Documents and reviewed submittals.
 2. Quantities are correct.
 3. Containers and packages are intact, and labels are legible.
 4. Products are properly protected and undamaged.
- J. Package or crate products to protect from damage during shipping, handling, and storage.
1. Mark or tag outside of packing to indicate contents by name and equipment number, special precautions for handling, and recommended requirements for storage.
 2. Protect machined and unpainted parts subject to damage by the elements.
 3. Transport and handle products in accordance with manufacturer's written instructions.
 4. Inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.
- K. Subsection 1.05 Product Handling below applies to this Subsection, Product Delivery.

1.05 PRODUCT HANDLING

- A. Provide equipment and personnel necessary to handle products, including those furnished by OWNER, by methods to prevent soiling or damage to products or packaging.
- B. Provide additional protection during handling as necessary to prevent scraping, marring or otherwise damaging products or surrounding surfaces.
- C. Handle products by methods to prevent bending or over stressing.
- D. Lift heavy components only at designated lifting points.
- E. Materials and equipment shall at all times be handled in a safe manner and as recommended by manufacturer or supplier so that no damage will occur to them. Do not drop, roll or skid products off delivery vehicles. Hand carry or use suitable materials handling equipment.

1.06 PRODUCT STORAGE

- A. Store and protect materials in accordance with manufacturer's recommendations and requirements of the Contract Documents.
- B. Manufacturer's product containers shall not be opened until time of installation.
- C. CONTRACTOR shall make all arrangements and provisions necessary for the storage of materials and equipment. All excavated materials, construction equipment, and materials and equipment to be incorporated into the Work shall be placed so as not to injure any part of the Work or existing facilities, and so that free access can be maintained at all times to all parts of the Work and to all public utility installations in the vicinity of the Work. Materials and equipment shall be kept neatly and compactly stored in locations that will cause a minimum of inconvenience to the OWNER, other contractors, public travel, adjoining owners, tenants and occupants. Arrange storage in a manner to provide easy access for inspection.
- D. Areas available on the construction site for storage of materials and equipment shall be within the project site or at other sites approved by the CONSTRUCTION MANAGER. Products shall not be stored inside structures being constructed.
- E. Materials and equipment shall be stored to facilitate inspection and to ensure preservation of the quality and fitness of the Work, including proper protection against damage by freezing and moisture.
 - 1. Arrange storage to provide access for inspection and inventory control.
 - a. Periodically inspect to ensure products are undamaged, and are maintained under required conditions.
 - b. Maintain an inventory of materials stored to facilitate inspection and estimate progress payments for materials delivered but not yet installed.

2. Store products in accordance with manufacturer's written instructions, with seals and labels intact and legible. Store sensitive products in weather-tight enclosures; maintain within temperature and humidity ranges required by manufacturer's written instructions.
- F. Products subject to damage by moisture, freezing, or other effects of the elements shall be stored inside weatherproof storage areas equipped with suitable temperature and moisture controls.
- G. For exterior storage of fabricated products, place on sloped supports above ground. Cover products subject to deterioration with impervious sheet covering; provide ventilation to avoid condensation.
- H. Store loose granular materials on solid surfaces in a well-drained area; prevent mixing with foreign matter.
- I. Lawns, grass plots, or other private property shall not be used for storage purposes without written permission of the OWNER or other person in possession or control of such premises.
- J. CONTRACTOR shall be fully responsible for loss or damage to stored materials and equipment.
- K. If necessary to relocate stored materials and equipment prior to or during construction, CONTRACTOR shall move materials and equipment without any additional compensation.

PART 2 - PRODUCTS

2.01 GENERAL PRODUCT REQUIREMENTS

- A. Provide new industrial quality products for the Work, unless used or reuse of existing is specifically authorized in the Contract Documents.
- B. Provide standard catalogue products of manufacturers regularly engaged in the manufacture of the products unless specifically authorized otherwise.
 1. Provide products that comply with specified requirements and that will function properly in their expected environment and under expected service conditions.
 2. Where two or more units of the same product class are provided, provide products from the same manufacturer that are interchangeable.
 3. Factory assemble equipment when practical.
 4. For equipment shipped unassembled, provide with assembly plans and written instructions. Match-mark or tag separate parts and assemblies to facilitate field assembly.
 5. Install products in accordance with requirements of Contract Documents and approved manufacturer's recommendations.

- C. CONTRACTOR shall make all arrangements for transportation, delivery and handling of equipment and materials required for prosecution and completion of the Work.
- D. Product fabrication, manufacture, or purchase shall not begin until related Shop Drawings are returned without objection by the CONSTRUCTION MANAGER.

2.02 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Provide any product meeting those standards.
- B. Products Specified by Naming One or More Manufacturers: Submit a Substitution Request for any manufacturer not specifically named. Product fabrication, manufacture, or purchase shall not begin until Substitution Requests and subsequent related Shop Drawings are returned without objection by the CONSTRUCTION MANAGER.

PART 3 - EXECUTION

3.01 SYSTEMS DEMONSTRATION

- A. Prior to final inspection, demonstrate satisfactory operation of each system to CONSTRUCTION MANAGER and OWNER.

**** END OF SECTION ****

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 33 01 10.59

DISINFECTION OF WATER UTILITY STORAGE TANKS AND PIPING

PART 1 - GENERAL

1.01 SCOPE

- A. The CONTRACTOR shall perform cleaning, flushing, and testing of all hydraulic structures and appurtenant piping, specifically the Settled Water Channel at the Otay Water Treatment Plant. All discharge or washdown water shall be discharged to the treatment plant drain. Should inspection of the Settled Water Channel reveal that no crack injection is required, the CONTRACTOR shall only be responsible for cleaning of any debris left by the inspection. The CONTRACTOR shall disinfect the Settled Water Channel if crack injection is required.

1.02 RELATED SECTIONS

- A. The Work of the following Sections applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.
1. Section 01 12 16 Work Sequence.
 2. Section 03 64 00 Injection Grouting.

1.03 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

- A. The following commercial standards are referenced in this Section:
1. ANSI/AWWA B300 Hypochlorites.
 2. ANSI/AWWA B301 Liquid Chlorine.
 3. ANSI/AWWA C652 Disinfection of Water-Storage Facilities.
 4. ANSI/AWWA D100 Welded Steel Tanks for Water Storage.

1.04 CONTRACTOR SUBMITTALS

- A. All submittals shall be in strict accordance with the requirements of Section 01 33 00, Submittal Procedures.
- B. The CONTRACTOR shall submit a written testing schedule, including proposed plans for dewatering the Settled Water Channel, water conveyance, control, disposal, and disinfection for approval a minimum of 7 days before the coordinated shutdown is to start.

PART 2 - PRODUCTS

2.01 MATERIALS REQUIREMENTS

- A. Temporary valves, bulkheads, or other water control equipment and materials shall be as determined by the CONTRACTOR subject to the CONSTRUCTION

MANAGER'S review. No materials shall be used which would be injurious to the construction or its future function.

- B. Chlorine for disinfection shall be in the form of liquid chlorine, sodium hypochlorite solution, or calcium hypochlorite granules or tablets. Liquid chlorine shall be in accordance with the requirements of ANSI/AWWA B301; sodium hypochlorite and calcium hypochlorite shall be in accordance with the requirements of ANSI/AWWA B300. Liquid chlorine shall be used only (1) in combination with appropriate gas flow chlorinators and ejectors; (2) under the direct supervision of an experienced technician; and (3) when appropriate safety practices are observed.

PART 3 - EXECUTION

3.01 GENERAL

- A. Water for the initial testing and disinfecting will be furnished by the OWNER; however, the CONTRACTOR shall make all necessary provisions for conveying the water from the OWNER-designated source to the points of use including providing all temporary piping, hose, valves, appurtenances, and services as needed to perform the work. Cost for water for re-disinfection and retesting shall be paid by the CONTRACTOR to the OWNER at the OWNER's standard rate. Chemicals for disinfection and dechlorination shall be furnished by the CONTRACTOR.
- B. All hydraulic structures and appurtenant pressure piping that shall be tested or dewatered for construction purposes and then returned to service; those for potable water shall also be disinfected. Disinfection shall be accomplished by chlorination. All chlorinating and testing operations shall be done in the presence of the CONSTRUCTION MANAGER.
- C. In the case of a reservoir, testing and disinfecting operations shall be combined.
- D. Disinfection operations shall be scheduled as late as possible during the construction schedule to ensure the maximum degree of sterility of the facilities at the time the Work is accepted by the OWNER. Bacteriological testing shall be performed by a certified testing laboratory acceptable to the OWNER. Results of the bacteriological testing shall be satisfactory to the State Department of Health or other appropriate regulatory agency.
- E. If industrial paint finishes or other protective coatings are to be applied to the interior surfaces of the hydraulic structure, such coatings shall be applied after all testing operations have been completed but prior to disinfection, except that in the case of reservoirs, such coatings shall be applied before the combined testing and disinfecting operations.
- F. Releases of water from structures, after testing and disinfecting have been completed, shall be acceptable to the CONSTRUCTION MANAGER and shall follow necessary procedures for dechlorination for water disposal.

3.02 PRELIMINARY CLEANING AND FLUSHING

- A. Before both testing and disinfecting, all hydraulic structures shall be cleaned by thoroughly hosing down all surfaces with a high pressure hose and nozzle of sufficient size to deliver a minimum flow of 50 gpm. All water, dirt, and foreign material accumulated in this cleaning operation shall be discharged from the structure or otherwise removed.

3.03 TESTING OF HYDRAULIC STRUCTURES (N/A)

- A. General: Testing shall be performed prior to backfilling, except where otherwise acceptable to the CONSTRUCTION MANAGER. Testing shall not be performed sooner than 14 days after all portions of structure walls and associated roof systems have been completed. The test shall consist of filling the structure with water to the maximum operating water surface. The rate of filling shall not exceed 24 inches of depth per day. All visible leakage shall be repaired.
- B. Leakage Test and Repairs: After the structure has been filled, the water loss leakage test shall be performed as follows: an initial water level reading shall be made. Seven days following the initial reading, a second reading shall be made. The structure shall be considered to have passed the test if water loss during the 7-day period, as computed from the two water level readings, does not exceed 0.1 percent of the total volume of water in the structure, after allowance is made for evaporation loss. If intermediate readings or observed leakage indicate that the allowable leakage will be exceeded, the test may be terminated before the end of the 7-day period and appropriate action taken to correct the problem before commencing a new 7-day test period. Should the structure fail to pass the test, the test shall be repeated for up to three additional 7-day test periods.
 - 1. If, at the end of 28 days, the structure still fails to pass the leakage test, the CONTRACTOR shall empty the structure as acceptable to the CONSTRUCTION MANAGER and shall examine the interior for evidence of any cracking or other conditions that might be responsible for the leakage. Any cracks shall be "vee'd" and sealed in accordance with Section 03 01 30.71, Rehabilitation of Cast-in-Place Concrete, and Section 03 64 00, Injection Grouting. Any evidence of leakage shall be repaired. Following these operations, test the hydraulic structure again. The structure will not be accepted as completed until the water loss leakage test is passed and all visible leakage repaired. In the case of a reservoir, the retesting shall again be combined with disinfection, exclusive of the spraying operation.
 - 2. Leaks in steel structures shall be repaired by chipping, gouging, or oxygen gouging and re-welding according to ANSI/AWWA D100. Following repair, test the structure again. The structure will be accepted when the leakage test is passed and all visible leakage is repaired. Retesting shall be combined with disinfection.

3.04 TESTING OF APPURTENANT PIPING

- A. Piping appurtenant to the Settled Water Channel shall be disinfected in accordance with Otay Water Treatment Plant staff.

3.05 DISINFECTION OF HYDRAULIC STRUCTURES AND APPURTENANT PIPELINES

- A. All hydraulic structures which store or convey potable water shall be disinfected by chlorination. Chlorination of hydraulic structures shall be performed in accordance with the requirements of ANSI/AWWA C652 using a combination of chlorination Methods 2 and 3 as modified herein.
- B. Chlorination: A strong chlorine solution (about 200 mg/l) shall be sprayed on all interior surfaces of the structure. Following this, the structure shall be partially filled with water to a depth of approximately 1 foot. During the partial filling operation, a chlorine-water mixture shall be injected by means of a solution-feed chlorinating device in such a way as to give a uniform chlorine concentration during the entire filling operation. The point of application shall be such that the chlorine solution will mix readily with the inflowing water. The dosage applied to the water shall be sufficient to provide a chlorine residual of at least 50 mg/l upon completion of the partial filling operation. Precautions shall be taken to prevent the strong chlorine solution from flowing back into the lines supplying the water. After the partial filling has been completed, sufficient water shall be drained from the lower ends of appurtenant piping to ensure filling the lines with the heavily chlorinated water.
- C. Retention Period: Chlorinated water shall be retained in the partially filled structure and appurtenant piping long enough to destroy all non-spore-forming bacteria, and in any event, for at least 24 hours. After the chlorine-treated water has been retained for the required time, the free chlorine residual in the structure and appurtenant piping shall be at least 25 mg/l. All valves shall be operated while the lines are filled with the heavily chlorinated water.
- D. Final Filling of Structure: After the free chlorine residual has been checked, and has been found to satisfy the above requirement, the water level in the structure shall be raised to its final elevation by addition of potable water and held for at least 24 hours. Before final filling is commenced, the quantity of heavily-chlorinated water remaining in the structure after filling the piping shall, unless otherwise acceptable to the CONSTRUCTION MANAGER, be sufficient, when the water level is raised to its final elevation to produce a free chlorine residual of between 1 and 2 mg/l. After the structures have been filled, the strength of the chlorinated water shall be determined. If the free chlorine residual is less than 1 mg/l, an additional dosage shall be applied to the water in the structure. If the free chlorine residual is greater than 2 mg/l, the structure shall be partially emptied and additional potable water added. After 24 hours, the free chlorine residual shall be no less than 1 mg/l or an additional dosage shall be applied and the residual tested again after 24 hours. In no case shall water be released prior to the expiration of the required retention period.

3.06 BACTERIOLOGICAL SAMPLING AND TESTING

- A. Disinfected water storage facilities shall be sampled and tested in accordance with ANSI/AWWA C652.

3.07 RETURN OF SETTLED WATER CHANNEL TO PLANT SERVICE

- A. When repair work has been made to the Settled Water Channel (channel) and the channel is to be returned to service, connections within the channel, the interior surfaces of all pipe and fittings used in making the connections shall be swabbed or sprayed with a one percent hypochlorite solution and the above disinfection procedures followed for disposal of water, disinfection of the channel and return to service. Otay Water Treatment Plant procedures shall be followed throughout with close coordination with plant staff.

**** END OF SECTION ****

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX A
NOTICE OF EXEMPTION

NOTICE OF EXEMPTION

(Check one or both)

TO: Recorder/County Clerk
P.O. Box 1750, MS A-33
1600 Pacific Hwy, Room 260
San Diego, CA 92101-2400

FROM: City of San Diego
Public Works Department
525 B Street, Suite 750, MS 908A
San Diego, CA 92101

Office of Planning and Research
1400 Tenth Street, Room 121
Sacramento, CA 95814

Project Name: Otay Water Treatment Plant Basin No. 1 Concrete Restoration

Project No. / WBS No.: B-17092.02.06

Project Location-Specific: 1500 Wueste Road, Chula Vista, CA 91915

Project Location-City/County: Chula Vista/San Diego

Description of nature and purpose of the Project: Replacement of the concrete coating on Basin No. 1 at the Otay Mesa Water Treatment Plant.

Name of Public Agency Approving Project: City of San Diego

Name of Person or Agency Carrying Out Project: City of San Diego Public Works Department
Contact: Jerry Jakubauskas; Phone: (619) 533-3755
525 B Street, Suite 750 (MS 908A), San Diego, CA 92101

Exempt Status: (CHECK ONE)

- Ministerial (Sec. 21080(b)(1); 15268);
- Declared Emergency (Sec. 21080(b)(3); 15269(a));
- Emergency Project (Sec. 21080(b)(4); 15269 (b)(c))
- Categorical Exemption: 15301 (Existing Facilities)

Reasons why project is exempt: The City of San Diego conducted an environmental review which determined that the project meets the categorical exemption criteria set forth in CEQA State Guidelines Section 15301 (Existing Facilities) which allows for the repair and maintenance of existing public structures involving negligible or no expansion of use beyond that existing at the time of the Lead Agency's determination including existing facilities of publicly owned utilities used to provide electric power, natural gas, sewerage, or other public utility services; and where the exceptions listed in Section 15300.2 would not apply.

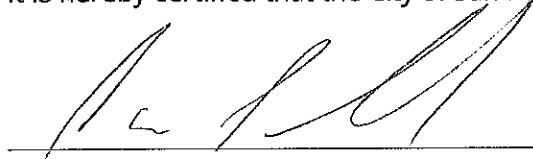
Lead Agency Contact Person: Jerry Jakubauskas

Telephone: (619) 533-3755

If filed by applicant:

1. Attach certified document of exemption finding.
2. Has a notice of exemption been filed by the public agency approving the project? Yes No

It is hereby certified that the City of San Diego has determined the above activity to be exempt from CEQA



Carrie Purcell, Assistant Deputy Director

January 3, 2019
Date

Check One:

- Signed By Lead Agency
- Signed by Applicant

Date Received for Filing with County Clerk or OPR:

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.)

CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS	NUMBER DI 55.27	DEPARTMENT Water Department
SUBJECT FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)	PAGE 2 OF 10	EFFECTIVE DATE October 15, 2002
	SUPERSEDES DI 55.27	DATED April 21, 2000

- 3.2 **Temporary Water Use:** Water provided to the customer for no longer than twelve (12) months.
- 3.3 **Backflow Preventor:** A Reduced Pressure Principal Assembly connected to the outlet side of a Fire Hydrant Meter.

4. **POLICY**

- 4.1 The Water Department shall collect a deposit from every customer requiring a fire hydrant meter and appurtenances prior to providing the meter and appurtenances (see Section 7.1 regarding the Fees and Deposit Schedule). The deposit is refundable upon the termination of use and return of equipment and appurtenances in good working condition.
- 4.2 Fire hydrant meters will have a 2 ½" swivel connection between the meter and fire hydrant. The meter shall not be connected to the 4" port on the hydrant. All Fire Hydrant Meters issued shall have a Reduced Pressure Principle Assembly (RP) as part of the installation. Spanner wrenches are the only tool allowed to turn on water at the fire hydrant.
- 4.3 The use of private hydrant meters on City hydrants is prohibited, with exceptions as noted below. All private fire hydrant meters are to be phased out of the City of San Diego. All customers who wish to continue to use their own fire hydrant meters must adhere to the following conditions:
 - a. Meters shall meet all City specifications and American Water Works Association (AWWA) standards.
 - b. Customers currently using private fire hydrant meters in the City of San Diego water system will be allowed to continue using the meter under the following conditions:
 - 1. The customer must submit a current certificate of accuracy and calibration results for private meters and private backflows annually to the City of San Diego, Water Department, Meter Shop.

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
	SUPERSEDES DI 55.27	DATED April 21, 2000

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
	SUPERSEDES DI 55.27	DATED April 21, 2000

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.

CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS	NUMBER DI 55.27	DEPARTMENT Water Department
SUBJECT FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)	PAGE 5 OF 10	EFFECTIVE DATE October 15, 2002
	SUPERSEDES DI 55.27	DATED April 21, 2000

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
	SUPERSEDES DI 55.27	DATED April 21, 2000

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

CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS	NUMBER DI 55.27	DEPARTMENT Water Department
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
SUBJECT FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)	PAGE 8 OF 10	EFFECTIVE DATE October 15, 2002
	SUPERSEDES DI 55.27	DATED April 21, 2000

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.

CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS	NUMBER DI 55.27	DEPARTMENT Water Department
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)

NS REQ	FAC#
DATE	BY

METER SHOP (619) 527-7449

Meter Information

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

Fire Hydrant Location: (Attach Detailed Map//Thomas Bros. Map Location or Construction drawing.) <u>Zip:</u>	T.B.	G.B. (CITY USE)
Specific Use of Water:		
Any Return to Sewer or Storm Drain, if so, explain:		
Estimated Duration of Meter Use: <input type="text"/>	<input type="checkbox"/>	Check Box if Reclaimed Water

Company Information

Company Name:			
Mailing Address:			
City:	State:	Zip:	Phone: ()
*Business license#		*Contractor license#	
A Copy of the Contractor's license OR Business License is required at the time of meter issuance.			
Name and Title of Billing Agent: <small>(PERSON IN ACCOUNTS PAYABLE)</small>			Phone: ()
Site Contact Name and Title:			Phone: ()
Responsible Party Name:			Title:
Cal ID#			Phone: ()
Signature:		Date:	
<small>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</small>			

Fire Hydrant Meter Removal Request	Requested Removal Date:
Provide Current Meter Location if Different from Above:	
Signature:	Title: Date:
Phone: ()	Pager: ()

<input type="checkbox"/> City Meter	<input type="checkbox"/> Private Meter
Contract Acct #:	Deposit Amount: \$ 936.00 Fees Amount: \$ 62.00
Meter Serial #	Meter Size: 05 Meter Make and Style: 6-7
Backflow #	Backflow Size: Backflow Make and Style:
Name:	Signature: Date:

WATER USES WITHOUT ANTICIPATED CHARGES FOR RETURN TO SEWER

Auto Detailing
Backfilling
Combination Cleaners (Vactors)
Compaction
Concrete Cutters
Construction Trailers
Cross Connection Testing
Dust Control
Flushing Water Mains
Hydro Blasting
Hydro Seeing
Irrigation (for establishing irrigation only; not continuing irrigation)
Mixing Concrete
Mobile Car Washing
Special Events
Street Sweeping
Water Tanks
Water Trucks
Window Washing

Note:

1. If there is any return to sewer or storm drain, then sewer and/or storm drain fees will be charges.

Date

Name of Responsible Party
Company Name and Address
Account Number: _____

Subject: Discontinuation of Fire Hydrant Meter Service

Dear Water Department Customer:

The authorization for use of Fire Hydrant Meter # _____, located at (*Meter Location Address*) ends in 60 days and will be removed on or after (*Date Authorization Expires*). Extension requests for an additional 90 days must be submitted in writing for consideration 30 days prior to the discontinuation date. If you require an extension, please contact the Water Department, or mail your request for an extension to:

City of San Diego
Water Department
Attention: Meter Services
2797 Caminito Chollas
San Diego, CA 92105-5097

Should you have any questions regarding this matter, please call the Fire Hydrant Hotline at (619) _____ - _____.

Sincerely,

Water Department

APPENDIX C

MATERIALS TYPICALLY ACCEPTED BY CERTIFICATE OF COMPLIANCE

MATERIALS TYPICALLY ACCEPTED BY CERTIFICATE OF COMPLIANCE

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

APPENDIX D

SAMPLE CITY INVOICE WITH CASH FLOW FORECAST

WBS #:	B18108
Date Submitted:	10/10/2018
NTP Date:	3/23/2018
Final Statement of WD Date:	5/23/2020
Contract #:	K-XX-XXXX-XXX-X
Contract Amount:	\$5,617,000

Construction Cash Flow Forecast
 "Sewer and Water Group Job 965 (W)"

Year	January	February	March	April	May	June	July	August	September	October	November	December
2018				15,000	25,000	52,000	52,000	100,000	10,000	100,000	100,000	100,000
2019	10,000	10,000	85,000	58,000	100,000	100,000	100,000	100,000	100,000	100,000	1,000,000	1,000,000
2020	100,000	100,000	100,000	1,000,000	1,000,000							
2021												
2022												
2023												
2024												
2025												

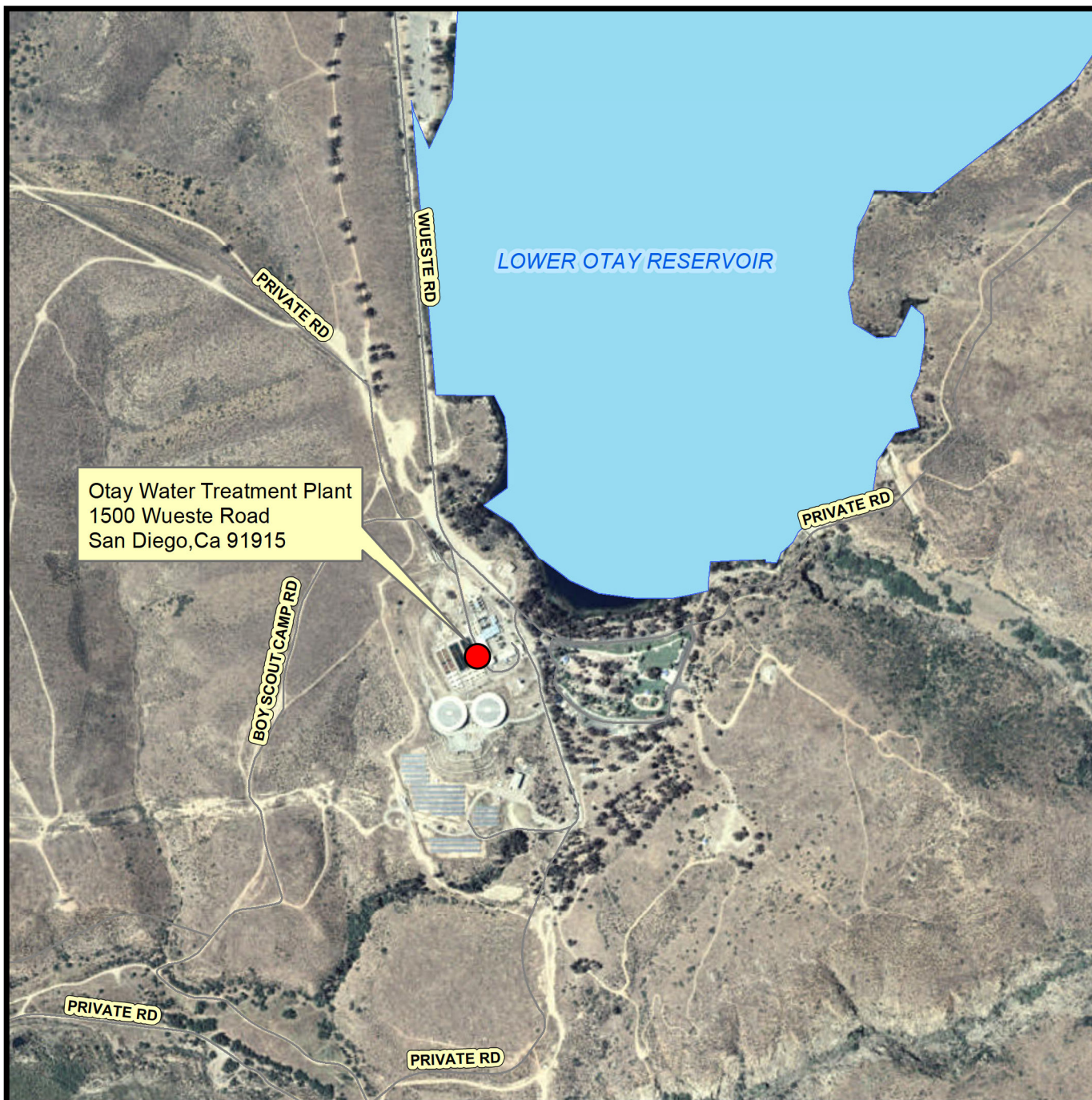
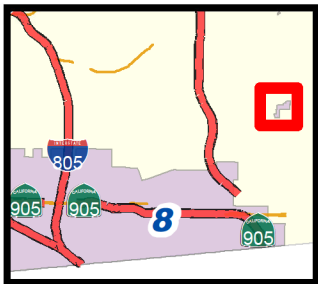
SAMPLE REFERENCE

APPENDIX E
LOCATION MAP

OTAY WATER TREATMENT PLANT
BASIN # 1 CONCRETE RESTORATION

SENIOR ENGINEER
Parita Ammerlahn
619 - 533 - 5406

PROJECT MANAGER
Rawsan Salha
619-533-5132



Legend
● **Project Location**



THIS MAP/DATA IS PROVIDED WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Note: This product may contain information reproduced with permission granted by RAND MCNALLY & COMPANY© to SanGIS. This map is copyrighted by RAND MCNALLY & COMPANY©. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without the prior, written permission of RAND MCNALLY & COMPANY.

APPENDIX F
SAMPLE OF PUBLIC NOTICE



CONSTRUCTION NOTICE

PROJECT TITLE

Work on your street will begin within one week to replace the existing water mains servicing your community.

The work will consist of:

- Saw-cutting and trench work on Ingulf Street from Morena Boulevard to Galveston Street to install new water mains, water laterals and fire hydrants.
• Streets where trenching takes place will be resurfaced and curb ramps will be upgraded to facilitate access for persons with disabilities where required.
• This work is anticipated to be complete in your community by December 2016.

How your neighborhood may be impacted:

- Water service to some properties during construction will be provided by a two-inch highline pipe that will run along the curb. To report a highline leak call 619-515-3525.
• Temporary water service disruptions are planned. If planned disruptions impact your property, you will receive advance notice.
• Parking restrictions will exist because of the presence of construction equipment and materials.
• "No Parking" signs will be displayed 72 hours in advance of the work.
• Cars parked in violation of signs will be TOWED.

Hours and Days of Operation:

Monday through Friday X:XX AM to X:XX PM.

City of San Diego Contractor:

Company Name, XXX-XXX-XXXX



CONSTRUCTION NOTICE

PROJECT TITLE

Work on your street will begin within one week to replace the existing water mains servicing your community.

The work will consist of:

- Saw-cutting and trench work on Ingulf Street from Morena Boulevard to Galveston Street to install new water mains, water laterals and fire hydrants.
• Streets where trenching takes place will be resurfaced and curb ramps will be upgraded to facilitate access for persons with disabilities where required.
• This work is anticipated to be complete in your community by December 2016.

How your neighborhood may be impacted:

- Water service to some properties during construction will be provided by a two-inch highline pipe that will run along the curb. To report a highline leak call 619-515-3525.
• Temporary water service disruptions are planned. If planned disruptions impact your property, you will receive advance notice.
• Parking restrictions will exist because of the presence of construction equipment and materials.
• "No Parking" signs will be displayed 72 hours in advance of the work.
• Cars parked in violation of signs will be TOWED.

Hours and Days of Operation:

Monday through Friday X:XX AM to X:XX PM.

City of San Diego Contractor:

Company Name, XXX-XXX-XXXX

ATTACHMENT F

RESERVED

ATTACHMENT G
CONTRACT AGREEMENT

ATTACHMENT G

CONTRACT AGREEMENT

CONSTRUCTION CONTRACT

This contract is made and entered into between THE CITY OF SAN DIEGO, a municipal corporation, herein called "City", and Abhe & Svoboda, Inc. , herein called "Contractor" for construction of Otay WTP-Basin #1 Concrete Restoration, Bid No.K-22-2054-DBB-3; in the total amount One Million Nine Hundred Seventy Nine Thousand Four Hundred Seventy Dollars and Zero Cents(\$1,979,470.00), which is comprised of the Base Bid.

1. The following are incorporated into this contract as though fully set forth herein:
 - (a) The attached Faithful Performance and Payment Bonds.
 - (b) The attached Proposal included in the Bid documents by the Contractor.
 - (c) Reference Standards listed in the Instruction to Bidders and the Supplementary Special Provisions (SSP).
 - (d) That certain documents entitled **Otay WTP-Basin #1 Concrete Restoration**, on file in the office of Purchasing & Contracting Department as Document No. **K-22-2054-DBB-3**, as well as all matters referenced therein.
2. The Contractor shall perform and be bound by all the terms and conditions of this contract and in strict conformity therewith shall perform and complete in a good and workmanlike manner **Otay WTP-Basin #1 Concrete Restoration**, Bid No. **K-22-2054-DBB-3**, San Diego, California.
3. For such performances, the City shall pay to Contractor the amounts set forth at the times and in the manner and with such additions or deductions as are provided for in this contract, and the Contractor shall accept such payment in full satisfaction of all claim's incident to such performances. (See WHITEBOOK, Section 7-3.10, Phased Funding Compensation).
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 and is approved by the City Attorney in accordance with San Diego Charter Section 40.

CONTRACT AGREEMENT (continued)

IN WITNESS WHEREOF, this Agreement is signed by the City of San Diego, acting by and through its Mayor or designee, pursuant to Municipal Code 522.3102 authorizing such execution.

THE CITY OF SAN DIEGO

By Stephen Samara

Print Name: Stephen Samara

Principal Contract Specialist
Purchasing & Contracting Department

Date: 5/25/2022

APPROVED AS TO FORM

Mara W. Elliott, City Attorney

By Mara W. Elliott

Print Name: Mara W. Elliott

Deputy City Attorney

Date: 6/7/22

CONTRACTOR

By James Svoboda

Print Name: James Svoboda

Title: VICE PRESIDENT

Date: 4/22/2022

City of San Diego License No.: Vendor account No. 302194

State Contractor's License No.: 506526

DEPARTMENT OF INDUSTRIAL RELATIONS (DIR) REGISTRATION NUMBER: 1000000096

CERTIFICATIONS AND FORMS

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

BIDDER'S GENERAL INFORMATION

To the City of San Diego:

Pursuant to "Notice Inviting Bids", specifications, and requirements on file with the City Clerk, and subject to all provisions of the Charter and Ordinances of the City of San Diego and applicable laws and regulations of the United States and the State of California, the undersigned hereby proposes to furnish to the City of San Diego, complete at the prices stated herein, the items or services hereinafter mentioned. The undersigned further warrants that this bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

The undersigned bidder(s) further warrants that bidder(s) has thoroughly examined and understands the entire Contract Documents (plans and specifications) and the Bidding Documents therefore, and that by submitting said Bidding Documents as its bid proposal, bidder(s) acknowledges and is bound by the entire Contract Documents, including any addenda issued thereto, as such Contract Documents incorporated by reference in the Bidding Documents.

**NON-COLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID UNDER 23
UNITED STATES CODE 112 AND PUBLIC CONTRACT CODE 7106**

State of California

County of San Diego

The bidder, being first duly sworn, deposes and says that he or she is authorized by the party making the foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

CONTRACTOR CERTIFICATION

DRUG-FREE WORKPLACE

I hereby certify that I am familiar with the requirements of San Diego City Council Policy No. 100-17 regarding Drug-Free Workplace as outlined in the WHITEBOOK, Section 5-1.3, "Drug-Free Workplace", of the project specifications, and that;

This company has in place a drug-free workplace program that complies with said policy. I further certify that each subcontract agreement for this project contains language which indicates the subcontractor's agreement to abide by the provisions of subdivisions a) through c) of the policy as outlined.

CONTRACTOR CERTIFICATION

AMERICANS WITH DISABILITIES ACT (ADA) COMPLIANCE CERTIFICATION

I hereby certify that I am familiar with the requirements of San Diego City Council Policy No. 100-4 regarding the Americans With Disabilities Act (ADA) outlined in the WHITEBOOK, Section 5-1.2, "California Building Code, California Code of Regulations Title 24 and Americans with Disabilities Act", of the project specifications, and that:

This company has in place workplace program that complies with said policy. I further certify that each subcontract agreement for this project contains language which indicates the subcontractor's agreement to abide by the provisions of the policy as outlined.

CONTRACTOR CERTIFICATION

CONTRACTOR STANDARDS – PLEDGE OF COMPLIANCE

I declare under penalty of perjury that I am authorized to make this certification on behalf of the company submitting this bid/proposal, that as Contractor, I am familiar with the requirements of City of San Diego Municipal Code § 22.3004 regarding Contractor Standards as outlined in the WHITEBOOK, Section 5-1.4, ("Contractor Standards and Pledge of Compliance"), of the project specifications, and that Contractor has complied with those requirements.

I further certify that each of the Contractor's subcontractors has completed a Pledge of Compliance attesting under penalty of perjury of having complied with City of San Diego Municipal Code § 22.3004.

CONTRACTOR CERTIFICATION

EQUAL BENEFITS ORDINANCE CERTIFICATION

I declare under penalty of perjury that I am familiar with the requirements of and in compliance with the City of San Diego Municipal Code § 22.4300 regarding Equal Benefits Ordinance.

CONTRACTOR CERTIFICATION

EQUAL PAY ORDINANCE CERTIFICATION

Contractor shall comply with the Equal Pay Ordinance (EPO) codified in the San Diego Municipal Code (SDMC) at section 22.4801 through 22.4809, unless compliance is not required based on an exception listed in SDMC section 22.4804.

Contractor shall require all of its subcontractors to certify compliance with the EPO in their written subcontracts.

Contractor must post a notice informing its employees of their rights under the EPO in the workplace or job site.

By signing this Contract with the City of San Diego, Contractor acknowledges the EPO requirements and pledges ongoing compliance with the requirements of SDMC Division 48, section 22.4801 et seq., throughout the duration of this Contract.

CONTRACTOR CERTIFICATION

PRODUCT ENDORSEMENT

I declare under penalty of perjury that I acknowledge and agree to comply with the provisions of City of San Diego Administrative Regulation 95.65, concerning product endorsement. Any advertisement identifying or referring to the City as the user of a product or service requires the prior written approval of the City.

AFFIDAVIT OF DISPOSAL

(To be submitted upon completion of Construction pursuant to the contracts Certificate of Completion)

WHEREAS, on the _____ DAY OF _____, 2____ the undersigned entered into and executed a contract with the City of San Diego, a municipal corporation, for:

Otay WTP-Basin #1 Concrete Restoration

(Project Title)

as particularly described in said contract and identified as Bid No. **K-22-2054-DBB-3**; WBS **B-17092**; and **WHEREAS**, the specification of said contract requires the Contractor to affirm that "all brush, trash, debris, and surplus materials resulting from this project have been disposed of in a legal manner"; and **WHEREAS**, said contract has been completed and all surplus materials disposed of:

NOW, THEREFORE, in consideration of the final payment by the City of San Diego to said Contractor under the terms of said contract, the undersigned Contractor, does hereby affirm that all surplus materials as described in said contract have been disposed of at the following location(s)

and that they have been disposed of according to all applicable laws and regulations.

Dated this _____ DAY OF _____, _____.

By: _____
Contractor

ATTEST:

State of _____ County of _____

On this _____ DAY OF _____, 2____, before the undersigned, a Notary Public in and for said County and State, duly commissioned and sworn, personally appeared _____ known to me to be the _____ Contractor named in the foregoing Release, and whose name is subscribed thereto, and acknowledged to me that said Contractor executed the said Release.

Notary Public in and for said County and State

LIST OF SUBCONTRACTORS

***** PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY *** TO BE SUBMITTED IN ELECTRONIC FORMAT ONLY*** SEE INSTRUCTIONS TO BIDDERS, FOR FURTHER INFORMATION**

In accordance with the requirements of the "Subletting and Subcontracting Fair Practices Act", Section 4100, of the California Public Contract Code (PCC), the Bidder is to list below the name, address and license number of each Subcontractor who will perform work, labor, render services or specially fabricate and install a portion [type] of the work or improvement, in an amount of or in excess of 0.5% of the Contractor's total Bid. Failure to comply with this requirement may result in the Bid being rejected as non-responsive. The Contractor is to list only one Subcontractor for each portion of the Work. The Bidder's attention is directed to the Special Provisions – General; Paragraph 2-3 Subcontracts, which stipulates the percentage of the Work to be performed with the Bidder's own forces. The Bidder is to also list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, SDB, WoSB, HUBZone, and SDVOSB Subcontractors for which the Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB®	WHERE CERTIFIED®	CHECK IF JOINT VENTURE PARTNERSHIP
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____							
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____							

- ① As appropriate, Bidder shall identify Subcontractor as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):
- | | | | |
|---|--------|--|---------|
| Certified Minority Business Enterprise | MBE | Certified Woman Business Enterprise | WBE |
| Certified Disadvantaged Business Enterprise | DBE | Certified Disabled Veteran Business Enterprise | DVBE |
| Other Business Enterprise | OBE | Certified Emerging Local Business Enterprise | ELBE |
| Certified Small Local Business Enterprise | SLBE | Small Disadvantaged Business | SDB |
| Woman-Owned Small Business | WoSB | HUBZone Business | HUBZone |
| Service-Disabled Veteran Owned Small Business | SDVOSB | | |
- ② As appropriate, Bidder shall indicate if Subcontractor is certified by:
- | | | | |
|--|--------|--|----------|
| City of San Diego | CITY | State of California Department of Transportation | CALTRANS |
| California Public Utilities Commission | CPUC | | |
| State of California's Department of General Services | CADoGS | City of Los Angeles | LA |
| State of California | CA | U.S. Small Business Administration | SBA |

The Bidder will not receive any subcontracting participation percentages if the Bidder fails to submit the required proof of certification.

NAMED EQUIPMENT/MATERIAL SUPPLIER LIST

***** PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY *** TO BE SUBMITTED IN ELECTRONIC FORMAT ONLY *** SEE INSTRUCTIONS TO BIDDERS FOR FURTHER INFORMATION**

NAME, ADDRESS AND TELEPHONE NUMBER OF VENDOR/SUPPLIER	MATERIALS OR SUPPLIES	DOLLAR VALUE OF MATERIAL OR SUPPLIES	SUPPLIER (Yes/No)	MANUFACTURER (Yes/No)	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB ^①	WHERE CERTIFIED ^②
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____						
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____						

- ① As appropriate, Bidder shall identify Vendor/Supplier as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):
- | | | | |
|---|--------|--|---------|
| Certified Minority Business Enterprise | MBE | Certified Woman Business Enterprise | WBE |
| Certified Disadvantaged Business Enterprise | DBE | Certified Disabled Veteran Business Enterprise | DVBE |
| Other Business Enterprise | OBE | Certified Emerging Local Business Enterprise | ELBE |
| Certified Small Local Business Enterprise | SLBE | Small Disadvantaged Business | SDB |
| Woman-Owned Small Business | WoSB | HUBZone Business | HUBZone |
| Service-Disabled Veteran Owned Small Business | SDVOSB | | |
- ② As appropriate, Bidder shall indicate if Vendor/Supplier is certified by:
- | | | | |
|--|--------|--|----------|
| City of San Diego | CITY | State of California Department of Transportation | CALTRANS |
| California Public Utilities Commission | CPUC | | |
| State of California's Department of General Services | CADoGS | City of Los Angeles | LA |
| State of California | CA | U.S. Small Business Administration | SBA |

The Bidder will not receive any subcontracting participation percentages if the Bidder fails to submit the required proof of certification.

ELECTRONICALLY SUBMITTED FORMS

FAILURE TO FULLY COMPLETE AND SUBMIT ANY OF THE FOLLOWING FORMS WILL DEEM YOUR BID NON-RESPONSIVE.

PLANETBIDS WILL NOT ALLOW FOR BID SUBMISSIONS WITHOUT THE ATTACHMENT OF THESE FORMS

The following forms are to be completed by the bidder and submitted (uploaded) electronically with the bid in PlanetBids.

- A. BID BOND – See Instructions to Bidders, Bidders Guarantee of Good Faith (Bid Security) for further instructions**

- B. CONTRACTOR’S CERTIFICATION OF PENDING ACTIONS**

- C. MANDATORY DISCLOSURE OF BUSINESS INTERESTS FORM**

- D. DEBARMENT AND SUSPENSION CERTIFICATION FOR PRIME CONTRACTOR**

- E. DEBARMENT AND SUSPENSION CERTIFICATION FOR SUBCONTRACTORS, SUPPLIERS AND MANUFACTURERS**

BID BOND

**See Instructions to Bidders, Bidder Guarantee of Good Faith
(Bid Security)**

KNOW ALL MEN BY THESE PRESENTS,

That Abhe & Svoboda, Inc. as Principal, and Western Surety 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

Otay WTP - Basin #1 Concrete Restoration

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 17th day of February, 20 22

Abhe & Svoboda, Inc.
(Principal)

No Seal
(SEAL)

Western Surety Company (SEAL)
(Surety)

By: 
(Signature)

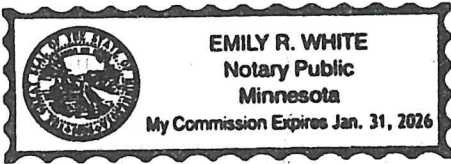
By: 
(Signature)
Joshua R. Loftis, Attorney-in-Fact

(SEAL AND NOTARIAL ACKNOWLEDGEMENT OF SURETY)

SURETY ACKNOWLEDGMENT

State of Minnesota)
) ss
County of Becker)

On this 17th day of February 2022, before me appeared Joshua R. Loftis,
to me personally know, who being by me duly sworn, did say that (s)he is the Attorney-in-Fact of _____
Western Surety Company, a corporation, that the seal
affixed to the foregoing instrument is the corporate seal of said corporation and that said instrument was
executed in behalf of said corporation by authority of its Board of Directors; and that said _____
Joshua R. Loftis acknowledged said instrument to be the free act and deed of said corporation.



Emily R. White

Notary Public Becker County, Minnesota

My commission expires 1/31/2026

Western Surety Company

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is a duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

R. W. Frank, Nicole Stillings, Rachel Thomas, Joshua R. Loftis, Ted Jorgensen, Sandra M. Engstrum, Melinda C. Blodgett, R. C. Bowman, Brian J. Oestreich, Lin Ulven, Emily White, Nathan Weaver, C. White, Individually

of Minneapolis, MN, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

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

This Power of Attorney is made and executed pursuant to and by authority of the By-Law printed on the reverse hereof, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 21st day of December, 2021.

WESTERN SURETY COMPANY



Paul T. Bruflat
Paul T. Bruflat, Vice President

State of South Dakota }
County of Minnehaha } ss

On this 21st day of December, 2021, before me personally came Paul T. Bruflat, to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is the Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires
March 2, 2026



M. Bent
M. Bent, Notary Public

CERTIFICATE

I, L. Nelson, Assistant Secretary of WESTERN SURETY COMPANY do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law of the corporation printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said corporation this 17th day of February . 2022



WESTERN SURETY COMPANY

L. Nelson
L. Nelson, Assistant Secretary

Form F4280-7-2012

Go to www.cnasurety.com > Owner / Oblige Services > Validate Bond Coverage, if you want to verify bond authenticity.

CONTRACTOR'S CERTIFICATION OF PENDING ACTIONS

As part of its bid or proposal (Non-Price Proposal in the case of Design-Build contracts), the Bidder shall provide to the City a list of all instances within the past 10 years where a complaint was filed or pending against the Bidder in a legal or administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors or suppliers, and a description of the status or resolution of that complaint, including any remedial action taken.


CHECK ONE BOX ONLY.

- The undersigned certifies that within the past 10 years the Bidder has NOT been the subject of a complaint or pending action in a legal administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors or suppliers.
- The undersigned certifies that within the past 10 years the Bidder has been the subject of a complaint or pending action in a legal administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors or suppliers. A description of the status or resolution of that complaint, including any remedial action taken and the applicable dates is as follows:

DATE OF CLAIM	LOCATION	DESCRIPTION OF CLAIM	LITIGATION (Y/N)	STATUS	RESOLUTION/REMEDIAL ACTION TAKEN

Contractor Name: ABHE & SVOBODA, INC.

Certified By DAVID GRANT Title AREA MANAGER
Name

 Date 2/22/22
Signature

USE ADDITIONAL FORMS AS NECESSARY

Mandatory Disclosure of Business Interests Form

BIDDER/PROPOSER INFORMATION

Legal Name		DBA	
ABhe & SVOBODA, INC.			
Street Address	City	State	Zip
880 TAVEN RD	ALPINE	CA	91901
Contact Person, Title		Phone	Fax
DAVID GRANT - AREA MANAGER		619-659-1320	619-659-1325

Provide the name, identity, and precise nature of the interest* of all persons who are directly or indirectly involved** in this proposed transaction (SDMC § 21.0103).

* The precise nature of the interest includes:

- the percentage ownership interest in a party to the transaction,
- the percentage ownership interest in any firm, corporation, or partnership that will receive funds from the transaction, the value of any financial interest in the transaction,
- any contingent interest in the transaction and the value of such interest should the contingency be satisfied, and any philanthropic, scientific, artistic, or property interest in the transaction.

** Directly or indirectly involved means pursuing the transaction by:

- communicating or negotiating with City officers or employees,
- submitting or preparing applications, bids, proposals, or other documents for purposes of contracting with the City,
- or directing or supervising the actions of persons engaged in the above activity.

Name	Title/Position
Gail Svoboda 462 Roxane Svoboda 463	President Secretary
City and State of Residence	Employer (if different than Bidder/Proposer)
Prior Lake, MN	-
Interest in the transaction	
Corporate ownership	

Name	Title/Position
James Svoboda 88	Vice President
City and State of Residence	Employer (if different than Bidder/Proposer)
Jordan, MN	-
Interest in the transaction	
Corporate ownership	

*** Use Additional Pages if Necessary ***

Under penalty of perjury under the laws of the State of California, I certify that I am responsible for the completeness and accuracy of the responses contained herein, and that all information provided is true, full and complete to the best of my knowledge and belief. I agree to provide written notice to the Mayor or Designee within five (5) business days if, at any time, I learn that any portion of this Mandatory Disclosure of Business Interests Form requires an updated response. Failure to timely provide the Mayor or Designee with written notice is grounds for Contract termination.

DAVID GRANT - AREA MANAGER

2/22/22

Print Name, Title
Signature
Date

Failure to sign and submit this form with the bid/proposal shall make the bid/proposal non-responsive. In the case of an informal solicitation, the contract will not be awarded unless a signed and completed Mandatory Disclosure of Business Interests Form is submitted.

**DEBARMENT AND SUSPENSION CERTIFICATION
PRIME CONTRACTOR
FAILURE TO COMPLETE AND SUBMIT AT TIME OF BID SHALL RENDER BID NON-RESPONSIVE**

EFFECT OF DEBARMENT OR SUSPENSION
To promote integrity in the City's contracting processes and to protect the public interest, the City shall only enter into contracts with responsible- bidders and contractors. In accordance with San Diego Municipal Code §22.0814 (a): <i>Bidders and contractors</i> who have been <i>debarred</i> or <i>suspended</i> are excluded from submitting bids, submitting responses to requests for proposal or qualifications, receiving <i>contract</i> awards, executing <i>contracts</i> , participating as a <i>subcontractor</i> , employee, agent or representative of another <i>person</i> contracting with the City.

As part of its bid or proposal (Non-Price Proposal in the case of Design-Build contracts), the Bidder shall provide to the City a list of Names of the Principal Individual owner(s).

The names of all persons interested in the foregoing proposal as Principals are as follows:

NAME	TITLE
GAIL SVOBODA	President / Treas.
ROXANE SVOBODA	SECRETARY
DAVID GRANT	Area Manager
JAMES SVOBODA / DON HOLLE	VP / VP

IMPORTANT NOTICE: If Bidder or other interested person is a corporation, state secretary, treasurer, and manager thereof; if a co-partnership, state true name of firm, also names of all individual co-partners composing firm; if Bidder or other interested person is an individual, state first and last names in full.

The Bidder, under penalty of perjury, certifies that, except as noted below, he/she or any person associated therewith in the capacity of owner, partner, director, officer, manager:


- Is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any Federal, State or local agency.
- has not been suspended, debarred, voluntarily excluded or determined ineligible by any Federal, State or local agency within the past 3 years.
- does not have a proposed debarment pending; and
- has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

If there are any exceptions to this certification, insert the exceptions in the following space.

Exceptions will be considered in determining bidder responsibility. For any exception noted above, indicate below to whom it applies, initiating agency, and dates of action.

Contractor Name: ABHE & SVOBODA, INC.

Certified By David Grant Title Area Manager

Name

Signature

Date 2/22/22

NOTE: Providing false information may result in criminal prosecution or administrative sanctions.

Bid Results

Bidder Details

Vendor Name Abhe & Svoboda, Inc.
Address 880 Tavern Road
Alpine, California 91901
United States
Respondee Daniel Markwell
Respondee Title Estimator
Phone 619-659-1320
Email daniel.markwell@abheonline.com
Vendor Type PQUAL, CADIR
License # 506526
CADIR 1000000096

Bid Detail

Bid Format Electronic
Submitted 03/02/2022 12:56 PM (PST)
Delivery Method
Bid Responsive
Bid Status Submitted
Confirmation # 281624

Respondee Comment

Buyer Comment

Attachments

File Title	File Name	File Type
Debarment and Suspension Cert Sub.pdf	Debarment and Suspension Cert Sub.pdf	Debarment and Suspension Cert - Subs/Supp/MFR
Debarment and Suspension Cert Prime.pdf	Debarment and Suspension Cert Prime.pdf	Debarment and Suspension Cert - Prime
Dislosure of Business Intrests.pdf	Dislosure of Business Intrests.pdf	Mandatory Disclosure of Business Interests
Cert of Pending Actions.pdf	Cert of Pending Actions.pdf	Contractor's Certification of Pending Actions
Bid Bond.pdf	Bid Bond.pdf	Bid Bond

Line Totals (Unit Price * Quantity)								
Item Num	Section	Item Code	Description	Reference	Unit of Measure	Quantity	Abhe & Svoboda, Inc. - Unit Price	Abhe & Svoboda, Inc. - Line Total
1	Main Bid	524126	Bonds (Payment and Performance)	1-7.2.1	LS	1	\$47,500.00	\$47,500.00
2	Main Bid	237110	Mobilization	7-3.4.1	LS	1	\$111,325.00	\$111,325.00
3	Main Bid	238120	Rebar Repair	01 22 13	LF	62.5	\$211.36	\$13,210.00
4	Main Bid	238110	Crack Repair (1/32-Inch to 1/8-Inch)	01 22 13	LF	100	\$252.00	\$25,200.00
5	Main Bid	238110	Expansion Joint Repair (No Concrete Damage)	01 22 13	LF	450	\$37.72	\$16,974.00
6	Main Bid	238110	Expansion Joint Restoration	01 22 13	LF	200	\$64.50	\$12,900.00
7	Main Bid	238110	Foreign Object Removal and Repair	01 22 13	EA	30	\$973.00	\$29,190.00
8	Main Bid	238110	Abrasive Blasting	01 22 13	SF	25000	\$13.60	\$340,000.00
9	Main Bid	238110	Cementitious Mortar Overlay	01 22 13	SF	30000	\$26.00	\$780,000.00
10	Main Bid	238390	Protective Coatings	01 22 13	LS	1	\$247,229.00	\$247,229.00
11	Main Bid	238110	Injection Grouting of Settled Water Channel	01 22 13	LF	75	\$248.00	\$18,600.00
12	Main Bid	541330	WPCP Development	1001-4.2	LS	1	\$690.00	\$690.00
13	Main Bid	237310	WPCP Implementation	1001-4.2	LS	1	\$1,827.00	\$1,827.00
14	Main Bid	237110	Diffuser Baffle Replacement	01 22 13	LS	1	\$224,825.00	\$224,825.00

15	Main Bid	237110	Third Party Inspection	01 22 13	AL	1	\$20,000.00	\$20,000.00
16	Main Bid		Field Orders (EOC Type II)	7-3.9	AL	1	\$90,000.00	\$90,000.00
							Subtotal	\$1,979,470.00
							Total	\$1,979,470.00