

EAST BAY MUNICIPAL UTILITY DISTRICT

REQUEST FOR QUOTATION (RFQ) No. 1708A for 42-inch Metal Seated Knife Gate Valve

For complete information regarding this project, see RFQ posted at <http://www.ebmud.com/business-opportunities> or contact the EBMUD representative listed below. Thank you for your interest!

Contact Person: Kelley Smith, Purchasing Contract Supervisor
Phone Number: (510) 287-0355
E-mail Address: Kelley.smith@ebmud.com

Please note that prospective bidders are responsible for reviewing <http://ebmud.com/business>, during the RFQ process, for any published addenda regarding this RFQ.

RESPONSE DUE
by
1:30 p.m.
on
January 18, 2017
at
EBMUD, Purchasing Division
375 Eleventh St., First Floor
Oakland, CA 94607



375 Eleventh Street, Oakland, CA 94607
Website: ebmud.com

EAST BAY MUNICIPAL UTILITY DISTRICT

RFQ No. 1708A

for

42-inch Metal Seated Knife Gate Valve

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ATTACHMENTS

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EXHIBIT B - INSURANCE REQUIREMENTS

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EXHIBIT D – TECHNICAL SPECIFICATIONS

1. Specification Section 01 33 00 – Submittal Procedures
2. Specification Section 01 45 27 Shop Inspection
3. Specification Section 33 12 16.10 - Metal Seated Knife Gate Valves
4. Manufacture’s Certificate of Proper Installation (will be completed by awarded bidder)
5. O&M Manual Review Checklist Form (will be completed by awarded bidder)
6. Maintenance Summary Form (will be completed by awarded bidder)

EXHIBIT E – STANDARD DRAWINGS

I. STATEMENT OF WORK**A. SCOPE**

It is the intent of these specifications, terms, and conditions to provide one 42-inch metal-seated knife gate valve that meets the requirements of this request for quotation.

East Bay Municipal Utility District (District) intends to award a contract to the lowest cost bidder(s) whose response meets the District's requirements.

B. BIDDER QUALIFICATIONS**1. Bidder Minimum Qualifications**

- a. Bidder shall represent a Manufacturers of valves and operators furnished under this Section shall have a minimum of ten (10) years verifiable experience in the manufacture of such equipment and availability of spare parts.

C. SPECIFIC REQUIREMENTS

The products supplied shall comply with the requirements of the following specification sections:

| Item # | Product | Specification Sections |
|---------------|--|---|
| 1 | 42-inch Metal Seated Gate Valve with manual actuator stand | 32 12 16.10 – Metal Seated Gate Valves 01 45 27 Shop Inspection 01 33 00 – Submittal Procedures |

All products shall be in new and unused condition and shall be of the most current and up to date model.

Products shall be delivered to the District location Oakport Storage Center, 5601 Oakport Street, Oakland, Phone: (510) 287-0426 (hours 8:30 a.m. to 11:45 a.m. and 12:15 p.m. to 3:30 p.m.). No deliveries will be accepted on Saturdays, Sundays or District Holidays. The Supplier shall provide all necessary materials handling equipment (including forklift), tiedowns, and dunnage. Coordinate delivery times and dates with the District staff. Contact Marshall McLeod at 510-287-1078 10 work days prior to delivery.

The Supplier shall be responsible for providing the following services during installation:

1. Training
2. Certificate of Proper Installation
3. Field Functional Test

Location: Old San Pablo Dam Rd, El Sobrante, CA. See Location Map on Draft Reference Installation Drawing No. 524.13-Z-001.1.

D. FAILURE TO MEET SPECIFICATIONS

In the event any shipment or shipments of a Contractor's product do not meet the specification or delivery requirements, the District may reject the shipment or shipments and, at its option, may purchase this material from any supplier on the open market who can meet the District's specification requirements or the District may demand immediate replacement by Contractor of the non-conforming product. Any costs over and above the original contract price will be charged back to the Contractor. In addition, Contractor shall bear the costs of removal and disposition for any delivery which fails to conform to the specifications.

II. CALENDAR OF EVENTS

| EVENT | DATE/LOCATION |
|-----------------------------------|------------------------------|
| RFQ Issued | January 10, 2017 |
| Bid Opening | February 1, 2017 |
| Anticipated Contract Start Date | March 1, 2017 |
| Required Valve Submittal Due Date | April 9, 2017 |
| Factory Acceptance and Approval | November 30, 2017 |
| Delivery Date | January 5, 2018 |
| Services during Installation | January 15 to March 15, 2018 |

Note: All dates are subject to change.

Bidders are responsible for reviewing <http://ebmud.com/business> for any published addenda. Hard copies of addenda will not be mailed out.

III. DISTRICT PROCEDURES, TERMS, AND CONDITIONS

A. RFQ ACCEPTANCE AND AWARD

1. RFQ responses will be evaluated to determine that they are responsive, responsible, and that they meet the specifications as stated in this RFQ.
2. The District reserves the right to award to a single or to multiple Contractors, dependent upon what provides the lowest overall cost to the District.
3. The District has the right to decline to award this contract or any part of it for any reason.
4. Any specifications, terms or conditions, issued by the District, or those included in the bidder's submission, in relation to this RFQ, may be incorporated into any PO or contract that may be awarded as a result of this RFQ.
5. Award of contract. The right is reserved to reject any or all proposals, to accept one part of a proposal and reject the other, unless the bidder stipulates to the contrary, and to waive technical defects, as the interest of the District may require. Award will be made or proposals rejected by the District as soon as possible after bids have been opened.

B. PRICING

1. All prices are to be F.O.B. destination. Any freight/delivery charges are to be included.
2. All prices quoted shall be in United States dollars.
3. Price quotes shall include any and all payment incentives available to the District.
4. Bidders are advised that in the evaluation of cost, if applicable, it will be assumed that the unit price quoted is correct in the case of a discrepancy between the unit price and extended price.

C. PROTESTS

Protests must be in writing and must be received no later than seven (7) business days after the District issues the Notice of Intent to Award, which is sent to all entities who submitted a bid package. The District will reject the protest as untimely if it is received after this specified time frame. Protests will be accepted from bidders or potential bidders only.

If the protest is mailed and not received by the District, the protesting party bears the burden of proof to submit evidence (e.g., certified mail receipt) that the protest was sent in a timely manner so that it would be received by the District within the RFQ protest period.

Bid protests must contain a detailed and complete written statement describing the reason(s) for protest. The protest must include the name and/or number of the bid, the name of the firm protesting, and include a name, telephone number, email address and physical address of the protestor. If a firm is representing the protestor, they shall include their contact information in addition to that of the protesting firm.

Protests must be mailed or hand delivered to the Manager of Purchasing, East Bay Municipal Utility District, 375 Eleventh Street, Oakland, CA 94607 or P.O. Box 24055, Oakland, California 94623. Facsimile and electronic mail protests must be followed by a mailed or hand delivered identical copy of the protest and must arrive within the seven day time limit. Any bid protest filed with any other District office shall be forwarded immediately to the Manager of Purchasing.

The bid protestor can appeal the determination to the requesting organization's Department Director. The appeal must be submitted to the Department Director no later than five working days from the date of receipt of the requesting organization's determination on the protest.

Such an appeal must be made in writing and must include all grounds for the appeal and copies of the original protest and the District's response. The bid protestor must also send the Purchasing Division a copy of all materials sent to the Department Director. The Department Director will make a determination of the appeal and respond to the protestor by certified mail in a timely manner. If the appeal is denied, the letter will include the date, time, and location of the Board of Directors meeting at which staff will make a recommendation for award and inform the protestor it may request to address the Board of Directors at that meeting.

The District may transmit copies of the protest and any attached documentation to all other parties who may be affected by the outcome of the protest. The decision of the District as to the validity of any protest is final. This District's final decision will be transmitted to all affected parties in a timely manner.

D. METHOD OF ORDERING

1. Written POs may be issued upon approval of written itemized quotations received from the Contractor.

2. POs and payments for products and/or services will be issued only in the name of Contractor.
3. Any and all change orders shall be in writing and agreed upon, in advance, by Contractor and the District.

E. TERM / TERMINATION / RENEWAL

1. The term of the contract, which may be awarded pursuant to this RFQ, will be one (1) year.
2. This Agreement may be terminated for convenience by the District provided the Contractor is given written notice of not less than 30 calendar days. Upon such termination, the District shall pay the Contractor the amount owing for the products ordered and satisfactorily received by the District. This shall be the sole and exclusive remedy to which the Contractor is properly entitled in the event of termination by the District.
3. This Agreement may be terminated for cause at any time, provided that the District notifies Contractor of impending action.

F. WARRANTY

1. Bidder expressly warrants that all goods and services to be furnished pursuant to any contract awarded it arising from the Bid will conform to the descriptions and specifications contained herein and in supplier catalogs, product brochures and other representations, depictions or models, and will be free from defects, of merchantable quality, good material, and workmanship. Bidder expressly warrants that all goods and services to be furnished pursuant to such award will be fit and sufficient for the purpose(s) intended. This warranty shall survive any inspections, delivery, acceptance, payment, or contract termination for any reason, by the District. Bidder warrants that all work and services furnished hereunder shall be guaranteed for a period of 1 year from the date of acceptance by the District.

G. INVOICING

1. Payment will be made within thirty (30) days following receipt of a correct invoice and upon complete satisfactory receipt of product and/or performance of services. The payment shall be made according to the following schedule
 - a. Ten (10) percent upon approval of design submittals as outlined in Specification Section 33 12 16.10;

- b. Seventy Five (75) percent upon successful factory observed testing of the equipment as outlined in Specification Section 33 12 16.10;
 - c. Ten (10) percent upon delivery of equipment and acceptance by the District;
 - d. Five (5) percent upon receipt and District acceptance of all delivery O&M submittals and field assistance as outlined in as outlined in Specification Section 33 12 16.10;
2. The District shall notify Contractor of any invoice adjustments required.
 3. Invoices shall contain, at a minimum, District PO number, invoice number, remit to address, and itemized products and/or services description.
 4. The District will pay Contractor in an amount not to exceed the total amount quoted in the RFQ response.

H. LIQUIDATED DAMAGES

1. A deduction for liquidated damages will be assessed for not meeting performance requirements as prescribed in this RFQ as follows:
 - a. Liquidated damages of \$500/calendar-day starting from the Delivery Date in Section III – Calendar or Events, that the entire equipment scheduled in this RFQ has not met the requirements of factory inspection testing listed in the specifications and that delivery has not been met. Liquidated Damages shall be capped at 10% of the overall contract.
2. It being impracticable or extremely difficult to fix the actual damage, the amount set forth above is hereby agreed upon as liquidated damages and will be deducted from any money due under the agreement arising from this RFQ.
3. In the event performance and/or deliverables have been deemed unsatisfactory, the District reserves the right to withhold future payments until the performance and/or deliverables are deemed satisfactory.

IV. RFQ RESPONSE SUBMITTAL INSTRUCTIONS AND INFORMATION

A. DISTRICT CONTACTS

All contact during the competitive process is to be through the contact listed on the first page of this RFQ. The following persons are only to be contacted for the purposes specified below.

TECHNICAL SPECIFICATIONS:

Attn: Marshall McLeod

EBMUD-Large Diameter Pipelines & Aqueducts Section

E-Mail: mmcleod@ebmud.com

PHONE: 510-287-1078

CONTRACT EQUITY PROGRAM:

Attn: Contract Equity Office

PHONE: (510) 287-0114

AFTER AWARD:

Attn: Marshall McLeod

EBMUD-Large Diameter Pipelines & Aqueducts Group Section

E-Mail: mmcleod@ebmud.com

PHONE: 510-287-1078

B. SUBMITTAL OF RFQ RESPONSE

1. Responses must be submitted in accordance with Exhibit A – RFQ Response Packet, including all additional documentation stated in the “Required Documentation and Submittals” section of Exhibit A.
2. Late and/or unsealed responses will not be accepted.
3. RFQ responses submitted via electronic transmissions will not be accepted. Electronic transmissions include faxed RFQ responses or those sent by electronic mail (“e-mail”).
4. RFQ responses will be received only at the address shown below, must be SEALED, and must be received at the District Purchasing Division by 1:30 p.m. on the due date specified in the Calendar of Events. Any RFQ response received after that time or date, or at a place other than the stated address cannot be considered and will be returned to the bidder unopened.

All RFQ responses must be received and time stamped at the stated address by the time designated. The Purchasing Division's timestamp shall be considered the official timepiece for the purpose of establishing the actual receipt of RFQ responses.

5. RFQ responses are to be addressed/delivered as follows:

Mailed:

Andrew Akelman, Manager of Purchasing
East Bay Municipal Utility District

42-inch Metal Seated Knife Gate Valve
RFQ No. 1708A
EBMUD–Purchasing Division
P.O. Box 24055
Oakland, CA 94623

Hand Delivered or delivered by courier or package delivery service:

Andrew Akelman, Manager of Purchasing
East Bay Municipal Utility District
42-inch Metal Seated Knife Gate Valve
RFQ No. 1709
EBMUD–Purchasing Division
375 Eleventh Street, First Floor
Oakland, CA 94607

Bidder's name, return address, and the RFQ number and title must also appear on the mailing package.

6. All costs required for the preparation and submission of an RFQ response shall be borne by the bidder.
7. California Government Code Section 4552: In submitting an RFQ response to a public purchasing body, the bidder offers and agrees that if the RFQ response is accepted, it will assign to the purchasing body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2, commencing with Section 16700, of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, materials, or services by the bidder for sale to the purchasing body pursuant to the RFQ response. Such assignment shall be made and become effective at the time the purchasing body tenders final payment to the bidder.
8. Bidder expressly acknowledges that it is aware that if a false claim is knowingly submitted (as the terms “claim” and “knowingly” are defined in the California False Claims Act, Cal. Gov. Code, §12650 et seq.), the District will be entitled to civil remedies set forth in the California False Claim Act.
9. The RFQ response shall remain open to acceptance and is irrevocable for a period of one hundred eighty (180) days, unless otherwise specified in the RFQ documents.
10. It is understood that the District reserves the right to reject any or all RFQ responses.

11. RFQ responses, in whole or in part, are NOT to be marked confidential or proprietary. The District may refuse to consider any RFQ response or part thereof so marked. RFQ responses submitted in response to this RFQ may be subject to public disclosure. The District shall not be liable in any way for disclosure of any such records.



EXHIBIT A

RFQ RESPONSE PACKET

RFQ No. 1709 – 42-inch Metal Seated Knife Gate Valve

To: The EAST BAY MUNICIPAL UTILITY District (“District”)

From: _____
(Official Name of Bidder)

RFQ RESPONSE PACKET GUIDELINES

- **BIDDERS ARE TO SUBMIT ONE (1) ORIGINAL HARDCOPY RFQ RESPONSE WITH ORIGINAL INK SIGNATURES CONTAINING THE FOLLOWING, IN THEIR ENTIRETY:**
 - **EXHIBIT A – RFQ RESPONSE PACKET, INCLUDING CONTRACT EQUITY PROGRAM FORMS AND ALL ADDITIONAL REQUIRED DOCUMENTATION AS DESCRIBED IN EXHIBIT A - “REQUIRED DOCUMENTATION AND SUBMITTALS”**
- **ALL PRICES AND NOTATIONS MUST BE PRINTED IN INK OR TYPEWRITTEN; NO ERASURES ARE PERMITTED; ERRORS MAY BE CROSSED OUT AND CORRECTIONS PRINTED IN INK OR TYPEWRITTEN ADJACENT, AND MUST BE INITIALED IN INK BY PERSON SIGNING THE RFQ RESPONSE.**
- **BIDDERS THAT DO NOT COMPLY WITH THE REQUIREMENTS, AND/OR SUBMIT AN INCOMPLETE RFQ RESPONSE MAY BE SUBJECT TO DISQUALIFICATION AND THEIR RFQ RESPONSE REJECTED IN TOTAL.**
- **IF BIDDERS ARE MAKING ANY CLARIFICATIONS AND/OR AMENDMENTS, OR TAKING EXCEPTION TO ANY PART OF THIS RFQ, THESE MUST BE SUBMITTED IN THE EXCEPTIONS, CLARIFICATIONS, AND AMENDMENTS SECTION OF THIS EXHIBIT A – RFQ RESPONSE PACKET. THE DISTRICT, AT ITS SOLE DISCRETION, MAY ACCEPT AMENDMENTS/EXCEPTIONS, OR MAY DEEM THEM TO BE UNACCEPTABLE, THEREBY RENDERING THE RFQ RESPONSE DISQUALIFIED.**
- **BIDDERS SHALL NOT MODIFY DISTRICT LANGUAGE IN ANY PART OF THIS RFQ OR ITS EXHIBITS, NOR SHALL THEY QUALIFY THEIR RFQ RESPONSE.**



BIDDER INFORMATION AND ACCEPTANCE

1. The undersigned declares that all RFQ documents, including, without limitation, the RFQ, Addenda, and Exhibits, have been read and that the terms, conditions, certifications, and requirements are agreed to.
2. The undersigned is authorized to offer, and agrees to furnish, the articles and services specified in accordance with the RFQ documents of RFQ No. 1709.
3. The undersigned acknowledges acceptance of all addenda related to this RFQ. List Addenda for this RFQ on the lines below:

| Addendum # | Date |
|------------|------|
| | |
| | |
| | |
| | |
| | |

4. The undersigned hereby certifies to the District that all representations, certifications, and statements made by the bidder, as set forth in this RFQ Response Packet and attachments, are true and correct and are made under penalty of perjury pursuant to the laws of California.
5. The undersigned acknowledges that the bidder is, and will be, in good standing in the State of California, with all the necessary licenses, permits, certifications, approvals, and authorizations necessary to perform all obligations in connection with this RFQ and associated RFQ documents.
6. It is the responsibility of each bidder to be familiar with all of the specifications, terms, and conditions and, if applicable, the site condition. By the submission of an RFQ response, the bidder certifies that if awarded a contract it will make no claim against the District based upon ignorance of conditions or misunderstanding of the specifications.
7. Patent indemnity: Contractors who do business with the District shall hold the District, its Directors, officers, agents, and employees, harmless from liability of any nature or kind, including cost and expenses, for infringement or use of any patent, copyright, or other proprietary right, secret process, patented or unpatented invention, article, or appliance furnished or used in connection with the contract or purchase order.

8. Insurance certificates are not required at the time of submission. However, by signing Exhibit A – RFQ Response Packet, the bidder agrees to meet the minimum insurance requirements stated in the RFQ. This documentation must be provided to the District prior to execution of an agreement by the District, and shall include an insurance certificate which meets the minimum insurance requirements, as stated in the RFQ.
9. The undersigned bidder hereby submits this RFQ response and binds itself on award to the District under this RFQ to execute in accordance with such award a contract and to furnish the bond or bonds and insurance required by the RFQ. The RFQ, subsequent Addenda, bidder’s Response Packet, and any attachments, shall constitute the Contract, and all provisions thereof are hereby accepted.
10. The undersigned acknowledges **ONE** of the following (please check only one box)*:

- Bidder is not an SBE and is ineligible for any bid preference; **OR**
- Bidder is an SBE or DVBE as described in the Contract Equity Program (CEP) and Equal Employment Opportunity (EEO) Guidelines, is requesting a 5% bid preference, and has completed the Contract Equity Program and Equal Employment Opportunity forms at the hyperlink contained in the Contract Equity Program and Equal Opportunity section of this Exhibit A.

*If no box is checked, it will be assumed that the bidder is ineligible for bid preference and none will be given. For additional information on SBE bid preference, please refer to the Contract Equity Program and Equal Employment Opportunity Guidelines at the above referenced hyperlink.

Official Name of Bidder (exactly as it appears on Bidder’s corporate seal and invoice): _____

Street Address Line 1: _____

Street Address Line 2: _____

City: _____ State: _____ Zip Code: _____

Webpage: _____

Type of Entity / Organizational Structure (check one):

- | | |
|--|--|
| <input type="checkbox"/> Corporation | <input type="checkbox"/> Joint Venture |
| <input type="checkbox"/> Limited Liability Partnership | <input type="checkbox"/> Partnership |
| <input type="checkbox"/> Limited Liability Corporation | <input type="checkbox"/> Non-Profit / Church |
| <input type="checkbox"/> Other: _____ | |

Jurisdiction of Organization Structure: _____

Date of Organization Structure: _____

Federal Tax Identification Number: _____

Department of Industrial Relations (DIR) Registration Number: _____

Primary Contact Information:

Name / Title: _____

Telephone Number: _____ Fax Number: _____

E-mail Address: _____

Street Address Line 1: _____

City: _____ State: _____ Zip Code: _____

SIGNATURE: _____

Name and Title of Signer (printed): _____

Dated this _____ day of _____ 20 _____



BID FORM(S)

Cost shall be submitted on this Bid Form as is. The prices quoted shall not include Sales Tax or Use Tax; said tax, wherever applicable, will be paid by the District to the contractor, if licensed to collect, or otherwise directly to the State.

No alterations or changes of any kind to the Bid Form(s) are permitted. RFQ responses that do not comply may be subject to rejection in total. The cost quoted below shall be the cost the District will pay for the term of any contract that is a result of this RFQ process.

Quantities listed herein are annual estimates based on past usage and are not to be construed as a commitment. No minimum or maximum is guaranteed or implied.

| Item # | Description | Manufacturer or Supplier (bidder must state manufacturer/supplier of proposed valve) | UOM | Est. Quantity | UNIT COST |
|-------------------|---|---|-----|---------------|-----------|
| 1 | 42-inch metal seated gate valve | | EA | 1 | \$ |
| 2 | Travel Costs, Factory Inspection, and Testing of Valves | N/A | LS | 1 | \$ |
| 3 | Factory Representative Inspection of Valve Installation | N/A | LS | 1 | \$ |
| TOTAL COST | | | | | \$ |



REQUIRED DOCUMENTATION AND SUBMITTALS

All of the specific documentation listed below is required to be submitted with the Exhibit A – RFQ Response Packet. Bidders shall submit all documentation, in the order listed below, and clearly label each section of the RFQ response with the appropriate title (i.e. Table of Contents, Letter of Transmittal, Key Personnel, etc.).

1. **Description of the Proposed Equipment/System:** RFQ response shall include a description of the proposed equipment/system, as it will be finally configured during the term of the contract. The description shall specify how the proposed equipment/system will meet or exceed the requirements of the District and shall explain any advantages that this proposed equipment/system would have over other possible equipment/systems. The description shall include any disadvantages or limitations that the District should be aware of in evaluating the RFQ response. Finally, the description shall describe all product warranties provided by bidder.
2. **Exceptions, Clarifications, Amendments:**
 - (a) The RFQ response shall include a separate section calling out all clarifications, exceptions, and amendments, if any, to the RFQ and associated RFQ documents, which shall be submitted with Bidder's RFQ response using the template in the "Exceptions, Clarifications, Amendments" section of this Exhibit A – RFQ Response Packet.
 - (b) **THE DISTRICT IS UNDER NO OBLIGATION TO ACCEPT ANY EXCEPTIONS, AND SUCH EXCEPTIONS MAY BE A BASIS FOR RFQ RESPONSE DISQUALIFICATION.**
3. **Contract Equity Program:**
 - (a) Every bidder must fill out, sign, and submit the appropriate sections of the Contract Equity Program and Equal Employment Opportunity documents located at the hyperlink contained in the last page of this Exhibit A. Special attention should be given to completing Form P-25, "Contractor Employment Data and Certification". Any bidder needing assistance in completing these forms should contact the District's Contract Equity Office at (510) 287-0114 prior to submitting an RFQ response.



CONTRACT EQUITY PROGRAM & EQUAL EMPLOYMENT OPPORTUNITY

The District's Board of Directors adopted the Contract Equity Program (CEP) to enhance equal opportunities for business owners of all races, ethnicities, and genders who are interested in doing business with the District. The program has contracting objectives, serving as the minimum level of expected contract participation for the three availability groups: white-men owned businesses, white-women owned businesses, and ethnic minority owned businesses. The contracting objectives apply to all contracts that are determined to have subcontracting opportunities, and to all contractors regardless of their race, gender or ethnicity.

All Contractors and their subcontractors performing work for the District must be Equal Employment Opportunity (EEO) employers, and shall be bound by all laws prohibiting discrimination in employment. There shall be no discrimination against any person, or group of persons, on account of race, color, religion, creed, national origin, ancestry, gender including gender identity or expression, age, marital or domestic partnership status, mental disability, physical disability (including HIV and AIDS), medical condition (including genetic characteristics or cancer), genetic information, or sexual orientation.

Contractor and its subcontractors shall abide by the requirements of 41 CFR §§ 60-1.4(a), 60-300.5(a) and 60-741.5(a). These regulations prohibit discrimination against qualified individuals based on their status as protected veterans or individuals with disabilities, and prohibit discrimination against all individuals based on their race, color, religion, sex, sexual orientation, gender identity, or national origin in the performance of this contract. Moreover, these regulations require that covered prime contractors and subcontractors take affirmative action to employ and advance in employment individuals without regard to race, color, religion, sex, national origin, protected veteran status or disability.

All Contractors shall include the nondiscrimination provisions above in all subcontracts.

Please include the required completed forms with your bid.

Non-compliance with the Guidelines may deem a bid non-responsive, and therefore, ineligible for contract award. Your firm is responsible for:

- 1) Reading and understanding the CEP guidelines.
- 2) Filling out and submitting with your bid the appropriate forms.

The CEP guidelines and forms can be found at the following direct link:

[Contract Equity Program Guidelines and Forms](#)

The CEP guidelines and forms can also be downloaded from the District website at the following link:

<http://ebmud.com/business-center/contract-equity-program/>

If you have questions regarding the Contract Equity Program please call (510) 287-0114.



EXHIBIT B

INSURANCE REQUIREMENTS

Insurance certificates are not required at the time of submission; however, by signing Exhibit A – RFQ Response Packet, the bidder agrees to meet the minimum insurance requirements stated in the RFQ. This documentation must be provided to the District, prior to award.

The following are the minimum insurance limits, required by the District, to be held by the Contractor performing on this RFQ:

INDEMNIFICATION AND INSURANCE

A. Indemnification

CONTRACTOR expressly agrees to defend, indemnify, and hold harmless the District and its Directors, officers, agents, and employees from and against any and all loss, liability, expense, claims, suits, and damages, including attorneys' fees, arising out of or resulting from CONTRACTOR's, its associates', employees', subcontractors', or other agents' negligent acts, errors or omissions, or willful misconduct, in the operation and/or performance under this Agreement.

B. Insurance Requirements

CONTRACTOR shall take out and maintain during the life of the Agreement all the insurance required in this section, and if requested shall submit certificates for review and approval by the District. The Notice to Proceed shall not be issued, and CONTRACTOR shall not commence work until such insurance has been approved by the District. The certificates shall be on forms approved by the District. Acceptance of the certificates shall not relieve CONTRACTOR of any of the insurance requirements, nor decrease the liability of CONTRACTOR. The District reserves the right to require CONTRACTOR to provide insurance policies for review by the District.

C. Workers Compensation Insurance

CONTRACTOR shall take out and maintain during the life of the Agreement Workers Compensation Insurance for all of its employees on the project. In lieu of evidence of Workers Compensation Insurance, the District will accept a Self-Insured Certificate from the State of California. CONTRACTOR shall require any subcontractor to provide it with evidence of Workers Compensation Insurance.

D. Commercial General Liability Insurance

CONTRACTOR shall take out and maintain during the life of the Agreement Automobile and General Liability Insurance that provides protection from claims which may arise from

operations or performance under this Agreement. If CONTRACTOR elects to self-insure (self-fund) any liability exposure during the contract period above \$50,000, CONTRACTOR is required to notify the District immediately. Any request to self-insure must first be approved by the District before the changed terms are accepted. CONTRACTOR shall require any subcontractor to provide evidence of liability insurance coverages.

The amounts of insurance shall be not less than the following:

\$2,000,000/Occurrence, Bodily Injury, Property Damage -- Automobile.

\$2,000,000/Occurrence, Bodily Injury, Property Damage -- General Liability.

The following coverages or endorsements must be included in the policy(ies):

1. The District, its Directors, officers, and employees are Additional Insureds in the policy(ies) as to the work being performed under the contract.
2. The coverage is *Primary and non-contributory* to any other applicable insurance carried by the District.
3. The policy(ies) covers *contractual liability*.
4. The policy(ies) is written on an *occurrence* basis.
5. The policy(ies) covers *personal injury* (libel, slander, and wrongful entry and eviction) liability.
6. The policy(ies) covers *products and completed operations*.
7. The policy(ies) covers the use of *owned, non-owned* and hired automobiles.
8. The policy(ies) and/or a separate pollution liability policy(ies) shall cover pollution liability for claims related to the release or the threatened release of pollutants into the environment arising out of or resulting from Consultant's performance under this agreement.
9. The policy(ies) will not be canceled nor the above coverages/endorsements reduced without 30 days written notice to East Bay Municipal Utility District at the address above.

EXHIBIT C

Effective: 1 Apr 15
Supersedes: 1 Apr 88

GENERAL REQUIREMENTS

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1. DEFINITIONS

The following terms shall be given the meaning shown, unless context requires otherwise or a unique meaning is otherwise specified.

- a. **“Change Order”** A Change Order is a written instrument used for modifying the contract with regards to the scope of Work, contract sum, and/or Contract Time. An approved Change Order is a Change Order signed by the District. An executed Change Order is a Change Order signed by both the District and the Contractor.

- b. **“Contract”** means the agreement between the District and Contractor as memorialized in the Contract Documents.
- c. **“Business Entity”** means any individual, business, partnership, joint venture, corporation, sole proprietorship, or other private legal entity recognized by statute.
- d. **“Buyer”** means the District’s authorized contracting official.
- e. **“Contract Documents”** comprise the entire agreement between the District and the Contractor and can include the District’s contract form if used, any purchase order, RFP, RFQ or Contractor response packet, and any addenda, appendices and District approved changes or amendments. The Contract Documents are intended to be complementary and include all items necessary for the Contractor’s proper execution and completion of the Work. Any part of the Work not shown or mentioned in the Contract Documents that is reasonably implied, or is necessary or usual for proper performance of the Work, shall be provided by the Contractor at its expense.
- f. **“Contractor”** means the Business Entity with whom the District enters into a contractual agreement. Contractor shall be synonymous with “supplier”, “vendor”, “consultant” or other similar term.
- g. **“Day”** unless otherwise specified, days are calendar days, measured from midnight to the next midnight.
- h. **“District”** means the East Bay Municipal Utility District, its employees acting within the scope of their authority, and its authorized representatives.
- i. **“Goods”** means off the shelf software and all types of tangible personal property, including but not limited to materials, supplies, and equipment.
- j. **“Project Manager”** shall be the District designated individual responsible for administering and interpreting the terms and conditions of the Contract Documents, for matters relating to the Contractor’s performance under the Contract with the District, and for liaison and coordination between the District and Contractor.
- k. **“Work”** means all labor, tasks, materials, supplies, and equipment required to properly fulfill the Contractor’s obligations as required in the Contract Documents.
- l. **“Work Day”** Unless otherwise specified, work day includes all days of the year except Saturdays, Sundays and District holidays.

2. BOND

- a. When required in the District’s bid or proposal solicitation documents, the Contractor to whom award is made shall furnish a good and approved faithful performance bond and/or payment bond within ten business days after receiving the forms for execution.
- b. The bonds shall be executed by a sufficient, admitted surety insurer (i.e.: as listed on website [http://interactive.web.insurance.ca.gov/webuser/idb_co_list\\$.startup](http://interactive.web.insurance.ca.gov/webuser/idb_co_list$.startup)) admitted to transact such business in California by the California Department of Insurance. After acceptance of the bond(s) by the District, a copy of the bond(s) will be

returned to the Contractor.

- c. If, during the continuance of the Contract, any of the sureties, in the opinion of the District, are or become irresponsible, the District may require other or additional sureties, which the Contractor shall furnish to the satisfaction of the District within ten days after notice. If the Contractor fails to provide satisfactory sureties within the ten-day period, the Contract may be terminated for cause under Article 18.

3. CONTRACTOR'S FINANCIAL OBLIGATION

The Contractor shall promptly make payments to all persons supplying labor and materials used in the execution of the contract.

4. SAMPLES OR SPECIMENS

The Contractor shall submit samples or prepare test specimens of such materials to be furnished or used in the work as the Project Manager may require.

5. MATERIAL AND WORKMANSHIP

- a. All goods and materials must be new and of the specified quality and equal to approved sample, if samples have been required. In the event any goods or materials furnished or services provided by the Contractor in the performance of the Contract fail to conform to the requirements, or to the sample submitted by the Contractor, the District may reject the same, and it shall become the duty of the Contractor to reclaim and remove the item promptly or to correct the performance of services, without expense to the District, and immediately replace all such rejected items with others conforming to the Contract. All work shall be done and completed in a thorough, workmanlike manner, notwithstanding any omission from these specifications or the drawings, and it shall be the duty of the Contractor to call attention to apparent errors or omissions and request instructions before proceeding with the work. The Project Manager may, by appropriate instructions, correct errors and supply omissions, which instructions shall be binding upon the Contractor as though contained in the original Contract Documents.
- b. All materials furnished and all Work must be satisfactory to the Project Manager. Work, material, or machinery not in accordance with the Contract Documents, in the opinion of the Project Manager, shall be made to conform.

6. DEFECTIVE WORK

The Contractor shall replace at its own expense any part of the work that has been improperly executed, as determined by the Project Manager. If Contractor refuses or neglects to replace such defective work, it may be replaced by the District at the expense of the Contractor, and its sureties shall be liable therefor.

7. WARRANTY OF TITLE

Contractor shall warrant to the District, its successors and assigns, that the title to the materials, supplies or equipment covered by the Contract, when delivered to the District or to its successors or assigns, is free from all liens and encumbrances.

8. WARRANTY OF FITNESS

Contractor hereby warrants that all materials furnished shall meet the requirements and conditions of the Contract Documents; shall be fit for the purposes intended and fulfill its design functions; be free of all patent and latent defects in design, materials and workmanship; and perform satisfactorily. It is understood and agreed that by acceptance of this warranty and the acceptance of the materials or supplies to be manufactured or assembled pursuant to these specifications, the District does not waive any warranty either expressed or implied in Sections 2312 to 2317, inclusive, of the Commercial Code of the State of California or any products liability of the Contractor as determined by any applicable decision of a court of the State of California or of the United States.

9. SAFETY AND ACCIDENT PREVENTION

In performing work under the Contract on District premises, Contractor shall conform to any specific safety requirements contained in the Contract or as required by law or regulation. Contractor shall take any additional precautions as the District may reasonably require for safety and accident prevention purposes. Any violation of such rules and requirements, unless promptly corrected, shall be grounds for termination of this Contract or Contractor's right to precede in accordance with the default provisions of the Contract Documents.

10. CHARACTER OF WORKFORCE

The Contractor shall employ none but skilled competent qualified personnel to perform the Work, and shall maintain discipline and order in the conduct of the Work at all times.

11. PREVAILING WAGES & DIR REGISTRATION

- a. Please see www.dir.ca.gov for further information regarding the below.
- b. All Contractors and Subcontractors of any tier bidding on, or offering to performing work on a public works project shall first be registered with the State Department of Industrial Relations (DIR) pursuant to Section 1725.5 of the Labor Code. No bid will be accepted nor any contract entered into without proof of the Contractor and Subcontractors' current registration with the DIR (LC § 1771.1).
- c. All public works projects awarded after January 1, 2015, are subject to compliance monitoring and enforcement by the DIR (LC § 1771.4) and all Contractors are required post job site notices, "as prescribed by regulation" (LC § 1771.4).
- d. To the extent applicable, pursuant to Section 1773 of the Labor Code, the District has obtained from the Director of Industrial Relations of the State of California, the general prevailing rates of per diem wages and the general prevailing rates for holiday and overtime work in the locality in which the Work is to be performed, for each craft, classification, or type of worker needed to execute the contract. Pursuant to Section 1773.2 of the Labor Code, a copy of the prevailing wage rates is on file with the District and available for inspection by any interested party at www.dir.ca.gov.
- e. The holidays upon which such rates shall be paid shall be all holidays recognized in the collective bargaining agreement applicable to the particular craft, classification, or type

of worker employed on the Work.

- f. The Contractor shall post a copy of the general prevailing rate of per diem wages at the jobsite pursuant to Section 1773.2 of the Labor Code.
- g. Pursuant to Section 1774 of the Labor Code, the Contractor and any of its Subcontractors shall not pay less than the specified prevailing rate of wages to all workers employed in the execution of the contract.
- h. As set forth with more specificity in Section 1773.1 of the Labor Code, "per diem" wages include employer payments for health and welfare, pension, vacation, travel, subsistence and, in certain instances, apprenticeship or other training programs, and shall be paid at the rate and in the amount spelled out in the pertinent prevailing wage determinations issued by the Director of Industrial Relations.
- i. The Contractor shall, as a penalty to the State or the District, forfeit not more than the maximum set forth in Section 1775 of the Labor Code for each calendar day, or portion thereof, for each worker paid less than the prevailing rates for the work or craft in which the worker is employed under the contract by the Contractor or by any Subcontractor under him. The difference between the prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which such worker was paid less than the stipulated prevailing wage rate shall be paid to such worker by the Contractor.
- j. The specified wage rates are minimum rates only and the District will not consider and shall not be liable for any claims for additional compensation made by the Contractor because of its payment of any wage rate in excess of the general prevailing rates. All disputes in regard to the payment of wages in excess of those specified herein shall be adjusted by the Contractor at its own expense.
- k. General prevailing wage determinations have expiration dates with either a single asterisk or a double asterisk. Pursuant to California Code of Regulations, Title 8, Section 16204, the single asterisk means that the general prevailing wage determination shall be in effect for the specified contract duration. The double asterisk means that the predetermined wage modification shall be paid after the expiration date. No adjustment in the Contract Sum will be made for the Contractor's payment of these predetermined wage modifications.

12. PAYROLL RECORDS & ELECTRONIC SUBMISSION

- a. The Contractor and each Subcontractor shall keep an accurate payroll record, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker or other employee employed in connection with the Work. The payroll records shall be certified and shall be available for inspection in accordance with the provisions of Section 1776 of the Labor Code. Certified payroll records shall be on the forms provided by the DIR or contain the same information required on the Department's form.

- b. The Contractor shall submit for each week in which any contract Work is performed a copy of all payroll records to the Engineer. The Contractor shall be responsible for submission of copies of payroll records of all Subcontractors.
- c. The Contractor or Subcontractor shall certify the payroll records as shown on the DIR form. In addition, the records shall be accompanied by a statement signed by the Contractor or Subcontractor certifying that the classifications truly reflect the Work performed and that the wage rates are not less than those required to be paid.
- d. For public works projects awarded on or after April 1, 2015, or that are still ongoing after April 1, 2016, no matter when awarded, each Contractor and Subcontractor shall furnish the certified payroll related records as more specifically described above and in Labor Code section 1776 directly to the Labor Commissioner (see LC § 1771.4). These records shall be provided to the Labor Commissioner at least monthly or more frequently if required by the terms of the Contract. For exception on projects covered by collective bargaining agreements like a PLA, please see Labor Code section 1771.4.
- e. In the event of noncompliance with the requirements of Section 1776 of the Labor Code, the Contractor shall have 10 days in which to comply subsequent to receipt of written notice specifying in what respects such Contractor must comply with said Section. Should noncompliance still be evident after such 10-day period, the Contractor shall, as a penalty to the State or the District, forfeit the amount set forth in Section 1776 of the Labor Code for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, such penalties shall be withheld from progress payments then due.
- f. The Contractor and every Subcontractor shall post at the workplace and comply with all required wage related workplace postings. Copies of the required postings may be downloaded or ordered electronically from the Department of Industrial Relations website at <http://www.dir.ca.gov/wpnodb.html>.

13. HOURS OF LABOR

Pursuant to the provisions of Sections 1810, et seq. of the Labor Code and any amendments thereof:

- a. Eight hours of labor constitutes a legal day's Work under the contract.
- b. The time of service of any worker employed upon the work shall be limited and restricted to eight hours during any one calendar day, and forty hours during any one calendar week except as provided in Article 13.iv below.
- c. The Contractor shall, as a penalty to the State or the District, forfeit the amount set forth in Section 1813 of the Labor Code for each worker employed in the execution of the contract by the Contractor or by any Subcontractor for each calendar day during which such worker is required or permitted to work more than eight hours in any calendar day and forty hours in any one calendar week in violation of this Article and the provisions of Labor Code, Sections 1810, et seq.
- d. Work performed by employees of the Contractor in excess of eight hours per day, and forty hours during any one calendar week, shall be permitted upon compensation for all

hours worked in excess of eight hours per day at not less than one and one-half times the basic rate of pay.

- e. The Contractor and every Subcontractor shall keep an accurate record showing the name of and the actual hours worked each calendar day and each calendar week by each worker employed by him in connection with the Work; the record shall be kept open at all reasonable hours to the inspection of the District and to the Division of Labor Standards Enforcement of the State of California.

14. EMPLOYMENT OF APPRENTICES

- a. In the performance of the contract, the Contractor and any Subcontractor shall comply with the provisions concerning the employment of apprentices in Section 1777.5 of the Labor Code and any amendments thereof.
- b. In the event the Contractor or any Subcontractor willfully fails to comply with the aforesaid section, such Contractor or Subcontractor shall be subject to the penalties for noncompliance in Labor Code, Section 1777.7.

15. CHANGES

- a. Changes in the Work can only be made in writing signed by an authorized employee of the District. If the change causes an increase or decrease in the contract sum, or a change in the time for performance under the Contract, an adjustment may be made as determined by the Project Manager.
- b. The District reserves the right to make changes in the design of materials, equipment, or machinery, to make alterations or additions to or deviations or subtractions from the Contract and any specifications and drawings, to increase or decrease the required quantity of any item or portion of the Work or to omit any item or portion of the Work, as may be deemed by the Project Manager to be necessary or advisable and to order such extra work as may be determined by the Project Manager to be required for the proper execution and completion of the whole Work contemplated. Any such changes will be ordered in writing by the Project Manager. The determination of the Project Manager on all questions relating to changes, including extra work, shall be conclusive and binding.
- c. Prior to issuing an amendment or change to the Contract, the Project Manager may request that the Contractor submit a proposal covering the changes. Within 10 business days of receiving the request, the Contractor shall submit its proposal to the Project Manager of all costs associated with the proposed amendment or change and any request for an extension of Contract time. Contractor's proposal shall include detailed estimates with cost breakdowns, including labor, material, equipment, overhead, and profit. Labor shall be broken down into hours and rate per hour. If applicable, the proposal shall include a breakdown for off-site labor (including factory labor, engineering, etc.). The Contractor's proposal shall include an analysis of schedule impact when the Contractor is requesting an adjustment in contract time. The Contractor shall be responsible for any delay associated with its failure to submit its change proposal within the time specified. If the Project Manager decides not to issue an amendment or change after requesting a proposal from the Contractor, the Contractor will be notified in writing. The Contractor is not entitled to reimbursement for Change Order

preparation costs if the Contractor's proposal is not accepted by the Project Manager.

- d. If the Contractor agrees with the terms and conditions of the approved Change Order, the Contractor shall indicate its acceptance by signing the original copy and returning it to the Project Manager within 10 Work Days after receipt or with reasonable promptness and in such sequence as to not delay the Work or activities of the District or of separate contractors, whichever is sooner. If notice of any change is required to be given to a surety by the provisions of any bond, the Contractor shall provide notice and the amount of each applicable bond shall be adjusted separately. Payment in accordance with the terms and conditions set forth in the executed Change Order shall constitute full compensation for all Work included in the Change Order and the District will be released from any and all claims for direct, indirect, and impact expenses and additional time impact resulting from the Work. If the Contractor disagrees with the terms and conditions of the approved Change Order, the Contractor shall indicate specific areas of disagreement and return the approved Change Order to the Project Manager with a detailed written dispute. No payment will be made on the disputed work until the approved Change Order is returned to the Project Manager. However, whether or not the Contractor agrees with the terms and conditions of an approved Change Order, the Contractor shall immediately revise its sequence of operations as required to facilitate timely completion of the changed work and shall proceed with the revised work sequence.
- e. The Project Manager may, after having received a written cost quotation from the Contractor, order the Contractor, in writing, to proceed with the work prior to issuance of an approved Change Order through a change directive. The change directive will authorize the Contractor to proceed with the work subject to the cost quotation submitted by the Contractor. Within five days following receipt of the change directive, the Contractor shall submit a detailed change proposal documenting the amount of compensation. The Project Manager will review the change proposal and, at its option, will either issue an approved Change Order for the work or direct the Contractor to perform the work through Force Account. Until the method of compensation is determined and the approved Change Order is received, the Contractor shall keep full and complete time and material records of the cost of the ordered work and shall permit the Project Manager to have access to such records. An approved Change Order shall supersede any previously issued written change directive covering the same Work.

16. EFFECT OF EXTENSIONS OF TIME

The granting, or acceptance, of extensions of time to complete the Work or furnish the labor, supplies, materials or equipment, or any one of the aforementioned, will not operate as a release of Contractor or the surety on Contractor's faithful performance bond.

17. DELAYS

- a. The Contractor shall take reasonable precautions to foresee and prevent delays to the Work. When the Contractor foresees a delay event, and upon the occurrence of a delay event, the Contractor shall immediately notify the Project Manager of the probability or the actual occurrence of a delay, and its cause. With respect to all delays (compensable, excusable or inexcusable), the Contractor shall reschedule the Work and revise its operations, to the extent possible, to mitigate the effects of the delay. Within 15 days from the beginning of a delay the Contractor shall provide the Project Manager with a

detailed written description of the delay, its cause, its impact and the Contractor's mitigation plans. Failure to provide the notification required above waives the Contractor's right to any additional time or compensation resulting from the delay for whatever cause. The Project Manager will investigate the facts and ascertain the extent of the delay, and the Project Manager's findings thereon shall be final and conclusive, except in the case of gross error. An extension of time must be approved by the Project Manager to be effective, but an extension of time, whether with or without consent of the sureties, shall not release the sureties from their obligations, which shall remain in full force until the discharge of the contract.

- b. For inexcusable delays (delays caused by circumstances with in the Contractor's control, the control of its subcontractors or supplies of any tier, or within the scope of the Contractor's contract responsibilities) the Contractor shall not be entitled to an extension of time or additional compensation for any loss, cost, damage, expense or liability resulting directly or indirectly from the inexcusable delay.
- c. For excusable delays (delays to completion of the Work within the time limits set forth in the Contract Documents directly caused by events beyond the control of both the Contractor and the District, which delay is not concurrent with an inexcusable delay and which could not have been avoided by the Contractor through reasonable mitigation measures).
- d. For compensable delays (delays to completion of the Work within the time limits set forth in the Contract Documents that could not be avoided by Contractor mitigation, caused directly and solely by the District or by causes within the exclusive control of the District, and which were not concurrent with any other type of delay) the Project Manager will grant the Contractor an extension of the time to perform under the Contract and compensation in an amount that represents the Contractor's actual direct costs incurred as a direct result of the compensable delay. The Contractor may recover its direct costs only and may not recover (and waives) all other types of indirect, consequential, special and incidental damages.
- e. For concurrent delays (two or more independent causes of delay directly preventing the Contractor from completing the Work within the time limits set forth in the Contract Documents where the delays occur at the same time during all or a portion of the delay period being considered, and where each of the delays would have caused delay to the Contractor even in the absence of any of the other delays, and none of the delays could have been avoided by Contractor mitigations) the following rules apply:
 - i. One or more of the concurrent delays are excusable or compensable, then the period of concurrent delay will be treated as an excusable delay; and
 - ii. All of the concurrent delays are inexcusable, then the period of concurrent delay will be inexcusable.

18. TERMINATION

- a. Termination by the District for Cause:

- i. District may terminate the Contractor's right to proceed under the Contract, in whole or in part, for cause at any time after the occurrence of any of the following events, each of which constitutes a default:
 1. The Contractor becomes insolvent or files for relief under the bankruptcy laws of the United States.
 2. The Contractor makes a general assignment for the benefit of its creditors or fails to pay its debts as the same become due.
 3. A receiver is appointed to take charge of the Contractor's property.
 4. The Contractor fails to supply skilled supervisory personnel, an adequate number of properly skilled workers, proper materials, or necessary equipment to prosecute the Work in accordance with the Contract Documents.
 5. The Contractor fails to make progress so as to endanger performance of the Work within the contractually required time.
 6. The Contractor disregards legal requirements of agencies having jurisdiction over the Work, the Contractor, or the District.
 7. The Contractor fails to provide the District with a written plan to cure a District identified default within five business days after the District's request for a plan to cure; the District does not accept the Contractor's plan for curing its default;, or the Contractor does not fully carry out an accepted plan to cure.
 8. The Contractor abandons the Work. Abandonment is conclusively presumed when the District requests a written plan to cure a default and the Contractor does not submit the plan within five business days of the District's request.
 9. The Contractor materially fails to meet its obligations in accordance with the Contract Documents.
 10. The Contractor is in default of any other material obligation under the Contract Documents.
- ii. If any of the above events occur, the District may, in its discretion, require that the Contractor submit a written plan to cure its default, which plan must be provided to the District within 5 business days of the request and must include a realistic, executable plan for curing the noted defaults.

- iii. Upon any of the occurrences referred to in Article 18.a.i. above, the District may, at its election and by notice to the Contractor, terminate the Contract in whole or in part; accept the assignment of any or all of the subcontracts; and then complete the Work by any method the District may deem expedient. If requested by the District, the Contractor shall remove any part or all of the Contractor's materials, supplies, equipment, tools, and machinery from the site of the Work within seven days of such request; and, if the Contractor fails to do so, the District may remove or store, and after 90 days sell, any of the same at the Contractor's expense.
- iv. No termination or action taken by the District after termination shall prejudice any other rights or remedies of the District provided by law or by the Contract Documents.
- v. Conversion: If, after termination for other than convenience, it is determined that the Contractor was not in default or material breach, or that the default or material breach was excusable, the rights and obligations of the parties shall be the same as if the termination had been issued for convenience pursuant to Article 18.b. below.

b. Termination by the District for Convenience:

- i. The District may, at its option, and for its convenience, terminate the Contract at any time by giving written notice to the Contractor specifying the effective date of termination. Upon such termination, the Contractor agrees to comply with the notice and further agrees to waive any claims for damages, including loss of anticipated profits, on account of the termination; and, as the sole right and remedy of the Contractor, the District shall pay the Contractor as set forth below.
- ii. Upon receipt of a notice of termination for convenience, the Contractor shall, unless the notice directs otherwise, do the following:
 - 1. Immediately discontinue its performance of the Contract to the extent specified in the notice.
 - 2. Place no further orders or subcontracts for materials, equipment, services, or facilities, except as may be necessary for completion of a portion of the Work that is not discontinued or that is necessary for an orderly cessation of the Work.
 - 3. Promptly cancel, on the most favorable terms reasonably possible, all subcontracts to the extent they relate to the performance of the discontinued portion of the Work.
 - 4. Thereafter, do only such Work as may be necessary to preserve and protect Work already in progress and to protect materials,

plants, and equipment in transit to or on the site of performance.

- iii. Upon such termination for convenience, the District will pay to the Contractor the sum of the following:
 - 1. The amount of the contract sum allocable to the portion of the Work properly performed by the Contractor as of the effective date of termination, less sums previously paid to the Contractor.
 - 2. Previously unpaid costs of any items delivered to the project site that were already fabricated for subsequent incorporation into the Work.
 - 3. Any proven losses with respect to materials and equipment directly resulting from the termination.
 - 4. Reasonable demobilization costs.
- iv. The above reimbursement is the sole and exclusive remedy to which the Contractor is entitled in the event the contract is terminated for convenience; and the Contractor expressly waives any other claims, damages, demands, compensation or recovery related to this contract or project. The Contractor agrees to sign a general release incorporating this waiver.
- c. Effect of Termination: Upon termination, the obligations of the Contract shall continue as to portions of the Work already performed and, subject to the Contractor's obligations under Article 18.b.ii, as to bona fide obligations assumed by the Contractor prior to the date of termination.
- d. Force Majeure: If the contract is suspended or terminated by the District because Contractor's performance is prevented or delayed by an event including an irresistible, superhuman cause, or by the act of public enemies of the State of California or of the United States ("Force Majeure"), the Contractor will be paid for Work performed prior to the Force Majeure event at either (i) the unit prices named in the Contract; or (ii) in the event no unit prices are named, a sum equal to the percentage of the total contract amount that matches the percentage of the total contract Work performed prior to the Force Majeure event.

19. DAMAGES

All losses or damages to material or equipment to be furnished pursuant to the Contract Documents occurring prior to receipt and final acceptance of the Work shall be sustained by the Contractor. The Contractor shall sustain all losses arising from unforeseen obstructions or difficulties, either natural or artificial, encountered in the prosecution of the Work, or from any action of the elements prior to final acceptance of the work, or from an act or omission on the part of the Contractor not authorized by the Contract Documents.

20. ORDER OF PRECEDENCE

- a. In the case of conflicts, errors, or discrepancies in any of the Contract Documents, the order of precedence is as follows. Within the same order of precedence, specific requirements shall take precedence over general requirements.
 - i. Approved Change Orders.
 - ii. Addenda.
 - iii. RFQ or RFP.
 - iv. Referenced Standard Specifications and Drawings.
 - v. Contractor's Response Packet
- b. With reference to drawings:
 - i. Numerical dimensions govern over scaled dimensions.
 - ii. Detailed drawings govern over general drawings.
 - iii. Addenda/Change Order drawings govern over contract drawings.
 - iv. Contract drawings govern over standard drawings.
 - v. Notes apply only to the drawing where the notes appear, unless classified as "typical" or intended to apply elsewhere in which case they apply to all drawings where the conditions or circumstance noted occurs.
 - vi. Typical details apply to all drawings unless a specific different detail is shown

21. INDEMNIFICATION/RESPONSIBILITY

- a. Contractor shall indemnify, keep and save harmless the District and each of its directors, officers, agents and employees against any and all suits, claims or actions arising out of any of the following:
 - i. Any injury to persons or property that may occur, or that may be alleged to have occurred, arising from the performance or implementation of this Contract; or
 - ii. Any allegation that materials or services developed, provided or used for this Contract infringe or violate any copyright, trademark, patent, trade secret, or any other intellectual-property or proprietary right of any third party.
- b. Contractor further agrees to defend any and all such actions, suits or claims and pay all charges of attorneys and all other costs and expenses of defenses as they are incurred. If any judgment is rendered, or settlement reached, against the District or any of the other agencies or individuals enumerated above in any such action, Contractor shall, at its expense, satisfy and discharge the same.

c. This indemnification shall survive termination or expiration of the Contract.

22. PROHIBITION OF ASSIGNMENT

The Contractor shall not assign, transfer, or otherwise dispose of any of its rights, duties or obligations under this Contract.

23. NEWS RELEASES

The Contractor, its employees, subcontractors, and agents shall not refer to the District, or use any logos, images, or photographs of the District for any commercial purpose, including, but not limited to, advertising, promotion, or public relations, without the District's prior written consent. Such written consent shall not be required for the inclusion of the District's name on a customer list.

24. TRANSFER OF INTEREST

Contractor shall not assign, transfer or otherwise substitute its interest in the Contract or any of the contract obligations without prior written consent from the District.

25. SEVERABILITY

Should any part of the Contract be declared by a final decision by a court or tribunal of competent jurisdiction to be unconstitutional, invalid or beyond the authority of either party to enter into or carry out, such decision shall not affect the validity of the remainder of the Contract, which shall continue in full force and effect, provided that the remainder of the Contract can be interpreted to give effect to the intentions of the parties.

26. COVENANT AGAINST GRATUITIES

The Contractor warrants that no gratuities (in the form of entertainment, gifts, or otherwise) were offered or given by the Contractor, or any agent or representative of the Contractor, to any officer or employee of the District with a view toward securing the Contract or securing favorable treatment with respect to any determinations concerning the performance of the Contract. For breach or violation of this warranty, the District shall have the right to terminate the Contract, either in whole or in part, and any loss or damage sustained by the District in procuring on the open market any items which Contractor agreed to supply shall be borne and paid for by the Contractor. The rights and remedies of the District provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or in equity.

27. RIGHTS AND REMEDIES OF THE DISTRICT

The rights and remedies of the District provided herein shall not be exclusive and are in addition to any other rights and remedies provided by law or under the Contract.

28. WAIVER OF RIGHTS

Any action or inaction by the District or the failure of the District on any occasion, to enforce any right or provision of the Contract, shall not be construed to be a waiver by the District of its rights and shall not prevent the District from enforcing such provision or right on any future

occasion. Rights and remedies are cumulative and are in addition to any other rights or remedies that the District may have at law or in equity.

29. CONFIDENTIALITY

Contractor agrees to maintain in confidence and not disclose to any person or entity, without the District's prior written consent, any trade secret or confidential information, knowledge or data relating to the products, process, or operation of the District. Contractor further agrees to maintain in confidence and not to disclose to any person or entity, any data, information, technology, or material developed or obtained by Contractor during the term of the Contract. The covenants contained in this paragraph shall survive the termination of this Contract for whatever cause.

EXHIBIT D
(forms in this section to be completed after award)

SECTION 01 33 00
POST AWARD
SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included:

1. Submit samples, drawings, and data for the Engineer's approval which demonstrate fully that the construction, and the materials and equipment to be furnished will comply with the provisions and intent of this Specification. All submittals shall be written in Standard American English and all numerical data, whether in drawings, test reports, engineering calculations, manufacturer's literature, or maintenance manuals, shall be in United States Customary System (USCS) measuring units (foot, pound, gallons, etc). If original design work was completed in metric units, their equivalent USCS dimension and unit shall be indicated. All submittals, in printed or electronic format, shall be original quality and completely legible. Any obfuscation or loss of clarity of original which may result in ambiguous interpretation is not acceptable.
2. Specific items to be covered by the submittals shall include, as a minimum, the following:
 - a. For equipment which requires electrical service, submit detailed information to show power supply requirements, wiring diagrams, control and protection schematics, shop test data, operation and maintenance procedures, outline drawings, and manufacturer's recommendation of the interface/interlock among the equipment.
 - b. For mechanical equipment submit all data pertinent to the installation and maintenance of the equipment including shop drawings, manufacturer's recommended installation procedure, detailed installation drawings, test data and curves, maintenance manuals, and other details necessary.
 - c. Substitutions.

1.2 PRODUCT HANDLING

- A. Compact disks or DVDs shall be packaged in a hard plastic case. The case and media shall be labeled as to content.

1.3 SUBMITTALS

- A. Submittals shall include the following information:
- B. A copy of the applicable section(s), with addendum updates included as appropriate, with each paragraph check-marked to indicate specification compliance or marked to indicate requested deviations from specification requirements.
- C. A check mark shall denote full compliance with a paragraph as a whole. If deviations from the specifications are indicated, and therefore requested by the Contractor, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph, referenced to a detailed written explanation of the reasons for requesting the deviation. The Engineer is the final authority for determining acceptability of requested deviations. The remaining portions of the paragraph not underlined will signify compliance on the part of the Contractor with the specifications.
- D. Any deviation from the contract documents not specifically requested and clearly identified, although accepted through oversight, may be rejected at any stage of the Work. The Contractor shall, at his own expense, reconstruct all work affected by the later rejection of a contract deviation that was not specifically called and explained for review and acceptance by the District as detailed above.

PART 2 - PRODUCTS

2.1 SHOP DRAWINGS

- A. Scale required:
 - 1. Make all shop drawings accurately to a scale sufficiently large to show all pertinent features of the item and its method of connection to the work.
- B. Type of prints required:
 - 1. Make all shop drawing prints in blue or black line on white background. Reproductions of District drawings are not acceptable.

2.2 MANUFACTURERS' LITERATURE

- A. Where contents of submitted literature from manufacturers includes data not pertinent to the submittal, clearly show which portions of the contents are being submitted for review.
- B. Clearly mark the literature with the materials and options being provided to illustrate conformance with the specification details.
- C. Provide the complete part number and include the legend containing the descriptive details that define the meaning of each digit of the number.

2.3 OPERATIONS AND MAINTENANCE MANUALS

- A. The provisions of this article are considered minimal requirements and do not supersede any requirements in individual sections of this specification.
- B. When O&M manuals are required to be submitted covering items included in this work, prepare all such manuals in approximately 8-1/2" x 11" format in durable, three ring plastic binders. Each manual shall be identical and include at a minimum information identified on the O&M Manual Review Checklist attached in Appendix A. In addition, furnish the following:
 - 1. Binder Cover: Identification on, or readable through, the front cover stating the District's specification (project) number and project title, District facility or facilities where the equipment will be installed, specification section number, and the system or equipment described in the manual.
 - 2. Binder Spine Label: Include the system or equipment name as shown on the binder cover along with the specification section number.
 - 3. Title page including applicable equipment tag numbers and equipment manufacturer's name, address, and telephone number. In addition, provide name, address and telephone number of the local manufacturer's representative.
 - 4. Table of contents organized and referenced to manual section dividers.
 - 5. Complete instructions regarding storage, handling, installation, operation, servicing, and maintenance of all equipment involved.
 - 6. Comprehensive replacement parts list, with complete nomenclature of all replaceable parts, their part numbers, current cost, and name and address of nearest vendor of parts.
 - 7. Detailed description of handling, replacement, and disposal of all fluids and replacement parts.
 - 8. Copies of Material Safety Data Sheets (MSDS) as required.
 - 9. Copies of all guarantees and warranties issued including the start and end dates for the warranty period or conditions for the initial start date and the duration.
 - 10. Copies of drawings with all data concerning changes made during construction.
 - 11. Copies of calculations or reports appropriately prepared including sketches, given or known information with the source of the data, equations with each variable defined and applicable units, cross-references, code/standard references, annotations and footnotes.
 - 12. All field and factory test data.

13. Engineering calculations or reports pertinent to the content of the O&M manual. See Article 2.8 Engineering Calculations or Reports.
 14. Provide a separate section with tab divider for documents developed in the field after the O&M manual has been approved. These documents include, but not limited to the following: manufacturer's certificate of proper installation, field test results, etc.
- C. Materials shall be word-processed.
- D. Manufacturer's literature shall be originals, or original quality copies. Specifically identify all equipment models and features being provided. Delete or cross out any extra information provided in standard manufacturer's literature that does not apply to the equipment furnished.
- E. Three-hole punch shall not obliterate any information. Reduce original material as necessary to provide a suitable margin for three-hole punching or provide three-hole punched clear plastic pockets for inserting single sheet material.
- F. O&M Manual Review Checklist:
1. The manufacturer's representative shall fill out a minimum of one O&M Manual Review Checklist form per submittal and include a copy in each submitted manual. Provide more than one checklist when specified in the technical specification sections. Clearly identify the location in the O&M Manual for each element in the Technical Content section (O&M tab number and page number). If the content is in multiple locations or on multiple pages, identify each location in the space provided or in the Comments column on the form.
 2. All portions of the form shall be completed prior to submittal, or the submittal may be returned unreviewed. Submittals may also be returned unreviewed if the O&M Manual Checklist form contains multiple error and/or omissions.
- G. O&M Manual Review Process
1. Preliminary O&M Manuals: Submit five (5) copies of the O&M Manuals for review. The District may return all copies of the O&M Manuals to the Contractor along with comments identifying necessary corrections or additions to the manuals. The District reserves the right to keep possession all of the O&M manuals, and have the Contractor arrange to correct the manuals to comply with the reviewer comments.
 2. Final O&M Manuals:
 - a. The manuals shall not be consider final until the submittal has received an "Approved" review status, and the District has possession of all five manuals.

- b. Final O&M manuals shall be submitted and accepted prior to the delivery of the respective equipment or system.

H. Electronic Files:

1. After the District has approved each O&M Manual, two copies of an electronic version shall be supplied in addition to the required number of hard copies.
2. Electronic files shall be created in both Portable Document Format (PDF) compatible with Adobe Acrobat Version 7.0 and Word format compatible with Microsoft Word 2007 or 2010. The security features of all submitted files shall be disabled so that the District can perform future editing. Custom-developed drawings included in the O&M manuals (i.e. loop diagrams, system interconnection diagrams, etc.) shall also be submitted electronically in both PDF and the native CAD file format for future editing of the drawings by the District. For AutoCAD files, the associated PDF files shall be saved such that all AutoCAD layering is preserved in the PDF file.
3. Electronic versions shall match the hard copy page for page with blank pages deleted. Electronic files shall be converted to PDF directly rather than using optical scanning. For any document not already in electronic format, the documents shall be scanned using optical character recognition to provide searching capability in the document.
4. All electronic files shall be supplied to the Engineer on CD +/-R 700 MB CD or DVD +/-R4.7 GB DVD if the file is larger than 700 MB along with the approved O&M manuals.

I. Maintenance Summary Forms

1. Furnish a completed Maintenance Summary Form (see Appendix A for typical format) as part of the O&M Manual. Include all typical, routine, or preventive maintenance required to ensure satisfactory performance during warranty period and longevity of the equipment. Manufacturer's representative shall sign and date the form certifying accuracy of the information.
2. Briefly summarize each maintenance activity on the form. Specific references to more detailed maintenance information located elsewhere in the O&M manual may be placed in the "Comments" column. However, simply referencing other sections in the O&M manual without a brief description of the maintenance activity is not acceptable.
3. Information on the form shall be word-processed, or typewritten.
4. Maintenance Summary Forms shall be on 8-1/2 inch by 11-inch paper and may be as many pages as required to completely summarize the required maintenance. However, the order and format must be in accordance with the

supplied form. The Maintenance Summary Forms will be provided in electronic format (MS Word) upon request.

2.4 ENGINEERING CALCULATIONS OR REPORTS

- A. Engineering calculations/reports required by this specification shall be based on well-established engineering theories and principles. Each calculation/report shall be a complete and independent package.
- B. The calculations/reports shall be comprehensive for each structure or item, in that all calculations/reports are contained within the individual structure or item's calculation/report document (i.e., no calculation/report references to other calculation documents).
- C. Presentation format shall be similar to that described in Article 2.6-Operations and Maintenance Manuals. As a minimum, all calculations/reports shall be bound in an appropriately labeled binder, and contain the following elements:
 - 1. Facility title, including substructure number, equipment description, applicable equipment tag number(s), and applicable specification section.
 - 2. Table of Contents.
 - 3. Introduction, including description of structure or item, purpose of calculation/report, design assumptions with justification, software utilized for the analysis including the version, and codes/standards used.
 - 4. A list of references used to provide the bases for assumptions, equations, or data used in the calculation/report.
 - 5. Calculations or reports appropriately prepared, including sketches, given or known information with the source of the data, equations with each variable defined and applicable units, cross-references, code/standard references, annotations and footnotes.
 - 6. Results shall be clearly identified. Summary tables shall be used for large amounts of data (especially if a software application is used).
 - 7. Final design details, ready for transmittal to design drawings or shop drawings.
 - 8. Professional Engineer's Seal or signature, as appropriate, of the individual(s) who prepared the calculations/reports.
 - 9. Appendices, including input and output files from computer design, and photocopies of catalog sheets for any special material or equipment (e.g., manufacturer sheet for equipment, ICBO reports for anchors, etc.), and checker markups.

- D. When any part of the calculation/report has been prepared by computer software, a copy of the input and output files, contained in CD +/-R or DVD +/-R, shall be included as part of the final design calculation.
- E. Shop drawings shall not be submitted until all design calculations/reports have been appropriately reviewed, checked and signed. The checker markups and comments shall also be included in an appendix to each calculation.

2.5 SUBMITTAL QUANTITIES

- A. Submit four (4) copies of all data and drawings unless specified otherwise.
- B. Submit one (1) electronic copy of the scanned data and drawings in PDF (compatible with Adobe Acrobat Version 7.0). Submit scanned copy on CD +/-R, DVD +/-R or e-mail attachment.
- C. Submit five (5) copies of each manual unless specified otherwise.

2.10 ELECTRONIC SUBMITTALS

- A. Provide electronic submittals in PDF (compatible with Adobe Acrobat Version 7.0). All portions of the electronic submittals shall be legible and shall be in full color identical to the original material. Provide manufacturer's literature in original electronic file, if available.
- B. Provide one electronic submittal file for each submittal except as noted hereinafter. The electronic submittal file name shall use the following format: submittal number – specification section number - description (e.g.: “001.1-01 33 00-Coating of Widgets”). Providing multiple electronic files for a single submittal (except as noted hereinafter) is not acceptable. The Contractor shall merge multiple files into a single electronic file.
- C. For larger submittals containing multiple volumes, submit one electronic file for each hardcopy volume and each electronic submittal file name shall include the corresponding hard copy volume number (e.g. “001.1-01 33 00-Coating of Widgets – Volume 3”).
- D. Upon acceptance of the electronic submittal (noted as Approved, Accepted, Approved As Noted, or Acknowledged Receipt), submit three (3) hardcopy sets of the submittal. The hardcopies shall be edited with highlighting, addressing/incorporating District review comments. A revised electronic file shall accompany the hardcopy submission, and shall match the hard copy submittal page for page including cover transmittal forms, title pages, and blank pages.
- E. Exceptions requiring hardcopy material initially, are:
 - 1. O&M processing,

2. As-built processing,
 3. When hardcopy material is originally in a form larger than 11" x 17"; the material shall not only be included in the electronic submittal, but shall also be submitted in hardcopy form along with the original electronic submittal required in Paragraphs A and B above. Seven (7) submittal copies of the large materials shall be provided.
- F. The Contractor is solely responsible for verifying that the hardcopy submittal and accompanying electronic submittal are identical and address/incorporate prior District review comments.
- G. All portions of the electronic submittals shall be provided with text searching capabilities whenever possible. For any document not already in electronic format, the documents shall be scanned using optical character recognition to provide text searching capability in the document.
- H. Electronic files shall be submitted to the Engineer in the following manner:
1. For files 10 MB or less, one copy via email, with the subject line matching the file name.
 2. For files more than 10 MB but not larger than 700 MB, provide three copies on CD +/-R 700 MB CD.
 3. For files larger than 700MB, provide three copies on DVD +/-4.7 GB DVD.

PART 3 - EXECUTION

3.1 GENERAL

- A. Prepare and use a transmittal form for submittals that includes the following information:
1. *Project name and specification number
 2. *Date of submittal
 3. *"To: Construction Division, MS #62
East Bay Municipal Utility District
P.O. Box 24055
Oakland, CA 94623-1055
ATTN: Supervising Administrative Engineer"
- B. Stamp or permanently print on each submittal the following certification statement.

"I hereby certify that the (equipment) (material) (article) shown and marked in this submittal is that proposed to be incorporated into Specification Number _____, is in compliance with the Contract drawings and specifications, can be installed in the allocated spaces, and is submitted for District (record/approval).

Certified by _____ Date _____ "

3.2 APPROVAL BY DISTRICT

- A. Approval of each submittal by the Engineer will be general only and shall not be construed as:
1. Permitting any departures from the contract requirements.
 2. Relieving the Contractor of the responsibility for any errors and omissions in details, dimensions, or of other nature that may exist.
 3. Approving departures from additional details or instructions previously furnished by the Engineer.
- B. One copy of each submittal, except manuals and as-built drawings, will be returned to the Contractor marked "Approved", "Approved as Noted", "Revise and Resubmit", or "Acknowledged Receipt", except that in some cases, all copies of a submittal may be returned to the Contractor marked "Returned without Review". See paragraph 3.5.E. for proposals for "or equal" substitutions made prior to bid opening pursuant to PCC Section 3400 (see Instructions To Bidders, Article 3).
1. "Approved" indicates that item covered by the submittal may proceed provided it complies with requirements of the specifications. Final acceptance will depend upon that compliance.
 2. "Approved as Noted" indicates that item covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the specifications. Final acceptance will depend on that compliance.
 3. "Revise and Resubmit" indicates that the Contractor shall not proceed with any phase of the item covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal in accordance with the notations and requirements of the specifications.
 4. "Acknowledged Receipt" indicates that the item is required to be submitted to the District primarily for information or record purposes, and is not subject to District review.
 5. "Returned without Review" indicates that the submittal was not reviewed by the District due to the submittal being incomplete, illegible, inadequate, or

otherwise failing to conform to the requirements of the specification.
Contractor shall prepare a new submittal for this item.

- C. Resubmit revised drawings or data as indicated, in seven (7) copies unless otherwise specified.
- D. Work requiring District approval shall not begin until the submittals for that work have been returned as "Approved" or "Approved as Noted".

3.3 CHANGES TO APPROVED SUBMITTALS

- A. A resubmittal is required for any proposed change to a submittal that has been "Approved" or "Approved as Noted". Changes which require resubmittal include, but are not limited to, drawing revisions, changes in materials and equipment, changes to installation procedures and test data. All resubmittals shall include an explanation of the necessity for the change.
- B. Minor corrections to an approved submittal may be accomplished by submitting a "Corrected Copy".

END OF SECTION

SECTION 33 12 16.10

METAL-SEATED KNIFE GATE VALVES

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work included: Furnish flanged, full-bonnet, metal-seated, rising-stem knife gate valve as shown, Table A, and as specified herein and provide Manufacturer services during installation.

| Table A – Knife Gate Valves | | | |
|------------------------------------|------------|--------------------|------------------------|
| Equipment ID Tag | Qty | Size [inch] | Pressure Rating |
| 1531-RWS-HV-021 | 1 | 42 | 50 psig |

- B. Related work specified elsewhere:
1. Section 01 33 00 – Submittal Procedures
 2. Section 01 45 27 – Shop Inspection

1.2 SUBMITTALS

- A. Submit the following prior to assembly:
1. See the submittal content requirements listed in “Metal-Seated Knife Gate Valve Technical Submittal Checklist” attached at the end of this Section.
 2. Each page of the submittal shall have a unique sequential page number (hand-written is acceptable, but must be completely legible).
 3. The first page of the submittal shall include the “Metal-Seated Knife Gate Valve Technical Submittal Checklist” completed by the manufacturer’s representative. Each submittal requirement listed in the checklist shall include the corresponding submittal page number(s).
 4. If the “Metal-Seated Knife Gate Valve Technical Submittal Checklist” is not included with the submittal or if all portions of the checklist are not completed accurately by the manufacturer’s representative, the submittal will be returned without review.
 5. Stem thrust calculations and operator rim pull calculations for opening and closing the valve under the specified conditions. Calculations for buckling of the stem / stem extension under maximum compressive thrust.

6. Seismic calculations for the valve anchorage by a Professional Civil or Structural Engineer, registered in the State of California, in accordance with this Section
 - a. All products to be furnished under this contract shall be designed, constructed, and installed in conformance with the seismic requirements contained in the California Building Code (CBC) as modified below.
 - b. The equipment and all components shall not undergo loss of their intended function after application of the Building Code prescribed seismic forces in Section 13.2 of ASCE 7, using the following values:

Design spectral acceleration at short periods, $S_{DS} = 1.493$

Component importance factor, $I_P = 1.50$

7. Descriptive Literature for Equipment Identification Tags: The literature and drawings shall contain the manufacturer's name, description, manufacturers' product data, and the full item number or designation.

B. Submit the following prior to shipping:

1. Affidavit of Compliance: Submit per the latest revision of AWWA Standard C520.
2. Operating and Maintenance (O&M) Manuals: Manuals shall be in accordance with Section 01 33 00 Submittal Procedures.
3. Test reports: Certified copies of production tests made under AWWA Standard C520.
4. Experience History.
5. Manufacturer's Recommended Field-Testing Procedures for each Valve type.
6. Product data and Manufacturer's instructions for all coating systems.

C. Submit the following prior to startup:

1. Certificate of Proper Installation
2. Field Functional Test results.

1.3 REFERENCES

- A. ANSI/AWWA C520-04, Knife Gate Valves, Sizes 2 In. through 96 In.

1.4 DEFINITIONS:

1. Manufacturer: Forms and assembles components to fabricate the valve, complete, including actuator, stem, stem guides.

2. Lead Supplier: Assumes overall direction of the work of this Section. The Lead Supplier may be the Manufacturer.
3. Installation Contractor: Other party bound by separate Contract with the District to install the valve per Manufacturer's recommendations.

1.5 QUALITY ASSURANCE

A. Shop Inspection:

1. Shop inspection will be performed during all phases of fabrication per Section 01 45 27. Specific points of inspection shall include weld inspections and dimensional checks.
2. The District will witness the following tests at the valve manufacturer for each valve: shell hydrostatic test; and seat leakage test(s).
3. The Engineer will release the valves for shipping after satisfactory completion of all tests.
4. Provide notification for Engineer to be present for testing. See Section 01 45 27 Shop Inspection for inspection advance notification requirements and District travel expenses.

B. In addition to inspections and tests witnessed at the manufacturer's plant, all valves will be inspected upon delivery for compliance with this section. Any valve found not to comply will not be accepted until deficiencies are corrected.

C. A decision by the Engineer to not inspect or witness tests at the manufacturer's plant shall not be construed as waiving inspection upon delivery. An affidavit of compliance is required.

D. Manufacturers of valves and operators furnished under this Section shall have a minimum of ten (10) years verifiable experience in the manufacture of such equipment and availability of spare parts

E. All valves shall be provided in accordance with the technical submittal after review and approval by the Engineer.

1.6 MANUFACTURERS' SERVICES

A. Provide the services of an experienced and authorized valve and actuator representative of the units installed under this section. The authorized representatives shall be present at the jobsite for the minimum number of workdays listed for the services identified below, travel time excluded.

1. Two man-days for the installation of the assemblies, and certification of the installation
2. One man-day for the startup, functional and performance testing.

- B. The authorized representatives shall inspect the installation of all work furnished under this section and shall provide a certificate of satisfactory installation.

1.7 WARRANTY

- A. Furnish a two-year warranty for all work covered by this Section, after installation and from the date of project substantial completion.

1.8 SHIPPING AND STORAGE

- A. The manufacturer's suggested storage requirements shall be placed on the outside of the unit or shipping container when delivered to the jobsite or approved storage location.
- B. Preparation for Transport: Prepare valves according to the following:
 - 1. Ensure that the valves are dry and internally protected against rust and corrosion.
 - 2. Protect valves against damage to flange faces.
 - 3. Set valves in best position for handling. Set valves closed to prevent rattling.
- C. During Storage: Use precautions for valves according to the following, and in accordance with AWWA C520:
 - 1. Do not remove end protectors unless necessary for inspection; then reinstall for storage.
 - 2. Protect from weather. Store indoors and maintain temperature higher than ambient dew-point temperature. Support off the ground or pavement in watertight enclosures when outdoor storage is necessary.
- D. Ship equipment, material, and spare parts complete except where partial disassembly is required by transportation regulations for protection of components or onsite installation constraints.
- E. Pack spare parts in containers bearing labels clearly designating contents and pieces of equipment for which they are intended.
- F. Protect flanges and fittings from moisture and dirt.
- G. Valves shall be complete in all respects when shipped. The manufacturer shall use care in preparing valves for shipment. All cavities shall be drained of water. All unpainted steel and iron-machined surfaces shall be coated with a rust inhibitor. Full-face flange protectors of waterproof plywood or weather-resistant pressboard, of at least the outside diameter of the flange, shall be fastened to each flange to protect both the flange and valve interior. Components shipped unattached shall be adequately protected and identified for correct field assembly.

- H. The Installation Contractor shall exercise due care in loading, unloading, and handling of the valves, which shall be done in accordance with AWWA C520. The Installation Contractor shall be solely responsible for any damage to the valves and shall repair any valve damaged in handling to the satisfaction of the Engineer at no cost to the District.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Knife gate valves shall comply with the latest revision of AWWA Standard C520 except as modified in this specification. In cases where the requirements of this specification conflict with the AWWA requirements, the requirements of this specification shall govern.
- B. Service Conditions:
 - 1. Knife gate valves will be used as shutoff valves San Pablo Tunnel
 - 2. In normal operation, the valves will be fully open with a flow between 0 - 55 cfs.
 - 3. Water Chemistry: Unless otherwise noted materials that contact water covered by this specification will be subjected to water that promotes galvanic corrosion. Materials and coatings shall be suitable for soft water (less than 50 ppm total dissolved solids) with pH from 6.5 to 9.5 and maximum total chlorine residual of 2.5 ppm (in chloramine form). The presence of chloramines in the water shall not have any effect on the manufacturer's warranty.
- C. All knife gate valves shall be bonneted with shaft packing gate wiper and purge ports in the bonnet.
- D. All circumferential and longitudinal weld inspection of the basic valve body shall be by dye penetrant or sonic means to insure structural integrity and water tightness to the interior of the weldment. All dye penetrant or sonic inspection techniques shall conform to ASTM Standards E165 or ASTM E164 and to the requirements of the specified ASTM material standard.
- E. Knife gate valves and floor stand operators shall have the name of the manufacturer, valve size, date of manufacture, and the design working pressure, cast, stamped, or permanently marked upon some appropriate part of the body.

2.2 MATERIALS

- A. Knife gate bodies and bonnets shall be stainless steel (Type 304 or 316).
- B. Gates, stems, stem guides, bolts, washers and all other metal components shall be Type 304 or Type 316 stainless steel.

- C. Elastomers in water contact shall be EPDM or Viton.
- D. Shall supply bolts, nuts, and washers required for this valve, stem, stem guide anchorage, and manual operators.

2.3 DETAILED DESIGN

- A. **Body Seating Surfaces:** Body seating surfaces shall be accurately and smoothly machined.
- B. Valves shall have a wafer type body style with threaded lugs of ANSI/ASME class 150 drilling for connection to AWWA C207 class D mating flanges as shown on Reference Dwg C-524.13-C-003. Flange faces shall be machine finished. Flanges shall be either raised faced or flat faced. Face shall be smooth or may have a serrated finish of approximately 32 serrations per inch, approximately 1/64 inch deep. Serrations may be either spiral or concentric. Flange faces shall be flat or slightly convex, but not exceeding .006" convexity, measured at the sealing surfaces with a feeler gauge and straight edge. Concavity shall not exceed .002" measured in the same manner. The back of the flanges shall be smooth and parallel to the front face. Flange bolt holes shall be spot faced if flange fillets interfere with bolt heads or nuts.
- C. **Bolting:**
 - 1. **Materials:** Bolts, studs, cap screws, nuts, and washers shall be ASTM A193 Class 1, B8M (Type 316) stainless steel.
 - 2. **Washers:** Install washers under both bolt or cap screw head and nuts.
 - 3. **Bolting surfaces** shall be machined prior to coating so that the bolts or cap screws do not deform when fully tightened.
- D. **Gate:** The valve gate and gate seating edge shall be fabricated from Type 304 or 316 Stainless Steel, in accordance with TAPPI standard TIS 405-8 and MSS SP-81. Valve gate shall be rigidly attached to the stem and shall require no torque to hold it in the closed position.
- E. **Stems:** The valve stem shall be fabricated from Type 304 or 316 stainless steel, and be rigidly attached to the gate. Fasteners used on the valve stem shall be of the same material as the valve stem. See Reference Draft Drawings listed on Dwg No. 524.13-Z-001.1.
- F. **Stem Guides:** The valve stems shall extend up through the concrete tower lid to the floor stand operator. See Reference Draft Drawings listed on Dwg No. 524.13-Z-001.1. Intermediate stem guides and anchor bolts spaced a maximum of 10 ft apart shall be provided. The stem guides shall be constructed of 304 or 316 stainless steel.
- G. **Mounting Feet:** The knife gates valves shall have mounting bases or feet to allow the valve to be securely anchored to the concrete bases as shown on the drawings.

The mounting feet and anchors shall be adequate to support the valve without any additional support being provided by the piping.

- H. Lifting Lugs: The valve body shall have lifting lugs or lifting holes.
- I. Equipment Identification Tag: attach to body with either epoxy adhesives, or stainless steel cable. Installation Contractor shall provide Equipment ID Tag for surface operator.
- J. Packing: The packing shall be PTFE or PTFE impregnated synthetic fiber.

2.4 VALVE OPERATORS

- A. The knife gate valves shall be equipped with geared floor-stand manual operators with handwheels. The operator/gearbox shall be mounted above ground on Reference Dwg C-524.13-C-002.
 - 1. Floor Stand Operators:
 - a. The floor stand bodies shall be constructed of cast iron, ductile iron or fabricated from carbon or stainless steel.
 - 2. Handwheels:
 - a. Surfaces shall be smooth with no rough edges to cut or abrade the person operating the valve.
 - b. The maximum handwheel diameter shall be 24".
 - c. The maximum rim pull shall not exceed 40 lbs under any operating condition including breakaway.
 - 3. Handwheel Lock
 - a. The handwheel shall be lockable using a standard padlock to prevent the valve from being operated.
 - 4. Coating
 - a. The floor stands and handwheels shall be factory coated with fusion-bonded or high-build epoxy. Installation Contractor will apply in the field urethane finish coat. Stainless steel components do not need to be coated.
 - b. Primer, intermediate, and finish coats shall be of same manufacturer.
 - c. Fusion Bonded Coating:
 - 1) Coating: 100% solids, fusion bonded, thermo-setting resin powder.

- 2) Preheating, coating application, and post-curing shall be in accordance with the coating manufacturer's instructions and AWWA C213.
 - 3) Dry film thickness of cured coating shall be 12 mils minimum, unless otherwise shown.
 - 4) Coating shall be free of holidays and pinholes.
 - 5) Finished coating shall be well bonded and have no sags and runs.
 - 6) Approved products:
 - a) Electrostatic spray: Scotchkote No. 134W (green), 3M.
 - b) Fluidized bed: Scotchkote No. 203 or No. 206N, 3M.
 - c) Or equal as approved by the Engineer.
- d. High Build Epoxy Coating:
- 1) Minimum Dry Film Thickness (DFT) of coating system: 12 mils. Maximum DFT per manufacturer's data.
 - 2) Acceptable products:
 - a) High build epoxy coatings:
 - i) Carboguard 890, Carboline Company, (800) 848-4645
 - ii) Hi-Build Epoxy V78 Series, Valspar Corporation, (800) 637-7793.
 - iii) Tnemec Series N69, Tnemec Co., (707) 792-2646.
 - iv) Interseal 670 HS, International Protective Coatings. Local supplier: International Paint, (800) 821-2871.
 - v) Bar-rust 235, Devoe Coatings Co., local supplier: ICI Paints Store, 3356 Piedmont Avenue, Oakland, CA 94611, (510) 547-4924.
 - vi) Or equal as approved by the Engineer.

2.5 PRODUCTION TESTING

- A. Operation Test: per the latest revision of AWWA Standard C520.
- B. Shell Test: per the latest revision of AWWA Standard C520.
- C. Seat Test: per the latest revision of AWWA Standard C520.

- D. Coating Tests: The coating for the floor stand shall be holiday free.
- E. Testing Certification: Certified copies of all test data and reports made under Production Testing shall be submitted by the Lead Supplier whether or not the tests are witnessed.

2.6 ACCEPTABLE PRODUCTS

- A. Hilton.
- B. Lined Valve Company.
- C. Or equal as approved by the Engineer.

PART 3 - EXECUTION

3.1 SHIPPING AND HANDLING

- A. Affidavit of Compliance is required and shall be provided.
- B. Valves shall be shipped with full face flange protectors in place. Flange protectors shall be replaced after coating inspection by the Engineer.
- C. If stored outdoors, valves shall be covered with tarpaulins, or plastic sheeting, etc., to protect them from sunlight and ozone damage.
- D. A copy of the District approved factory test submittal shall be included with the shipment.

3.2 INSPECTION UPON DELIVERY

- A. Upon delivery, valves may be inspected or tested by the District Representative for compliance with these Specifications. Any valve found not to comply will not be accepted until deficiencies are corrected by the Lead Supplier at no cost to District. Failure by the District to inspect or witness tests at the manufacturer's plant shall not be construed as waiving inspection upon delivery or testing.

3.3 SUPERVISION AND APPROVAL OF INTALLATION, INSPECTION, AND FIELD TESTING

- A. Training
 - 1. Prior Functional Testing, the Lead Supplier shall furnish the valve Manufacturer's technical representative with specific expertise in knife gate valves to provide two similar sessions of operating and maintenance instructions. The manufacturer's O&M manuals shall be a basis for the training sessions. District reserves the right to videotape the sessions for future use. All expenses related to this required training shall be included in the bid item price.

B. Certificate of Proper Installation:

1. The Lead Supplier shall furnish the services of the valve Manufacturer's technical representative with specific expertise in knife gate valves to verify proper installation of knife gate valves. The representative shall be available as described in Section to ensure proper installation and testing of the operators. All expenses related to this required field inspection shall be included in the bid item price.

3.4 INSTALLATION

- A. Installation of the valve shall be done by the Installation Contractor. Final field top coating shall be done by the Installation Contractor.
- B. Lead Supplier to provide Manufacturer's training and certify proper installation.

3.5 FIELD FUNCTIONAL TESTING

- A. Functional Test shall be conducted in the presence of the Engineer.
- B. The Manufacturer's representative shall be present to verify the proper installation and set up of the valves. Valves shall be tested at the same time that the adjacent pipeline is tested. Joints shall show no visible leakage under test. Repair joints that show signs of leakage prior to final acceptance by the District. The Installation Contractor shall protect any special parts of control systems operators that might be damaged by the pipeline test. Repair or replace all components damaged during testing at no cost to the District.
- C. The District will cycle each valve full open and full shut three times each to verify the valve operates smoothly without binding. The maximum rim pull shall not exceed 40 lbs under any condition.

3.6 SEE FIELD FUNCTIONAL TEST DATA FORM SUPPLEMENTS

- A. The following supplements located after "END OF SECTION" are a part of this specification:
 1. Metal-Seated Knife Gate Valve Technical Submittal Checklist
 2. Field Functional Test Data Form

END OF SECTION

METAL-SEATED KNIFE GATE VALVE TECHNICAL SUBMITTAL CHECKLIST
(Manufacturer's Representative to complete one form per submittal)

| SPEC. SECTION TITLE & NO: | | |
|---|---------------------------|--|
| SUBMITTAL CONTENT REQUIREMENTS | Page Number(s) | |
| 1. Catalog data: Show illustrations with parts list that identifies the materials used for various parts. The information shall be of sufficient detail to serve as a guide in the assembly and disassembly of the valve and for ordering parts. | | |
| 2. Certified manufacturer's assembly drawings showing: <ul style="list-style-type: none"> a. Principal dimensions including flange size and drilling, lay length, base/foot dimensions and anchor bolt size, overall size of the bonnet, stem size, stem guide dimensions, stem guide mounting details, stem guide spacing and manual operator dimensions. b. Construction details. c. Cross-sectional view of valve with all parts and materials by ASTM specification and UNS designation numbers. | | |
| 3. Net assembled weight of each valve. | | |
| 4. Maximum stem thrust required to open the valve and maximum stem thrust to close the valve | | |
| 5. Number of turns to open the valve. | | |
| 6. Diameter of handwheel and maximum rim pull required to open or close the valve | | |
| 7. Stem thrust, rim pull and stem/stem extension buckling calculations | | |
| 8. Seismic calculations | | |
| 9. Coating materials to be applied. | | |
| 10. Proof-of-Design Tests: for each basic valve type provided by the manufacturer. | | |

FIELD FUNCTIONAL TEST DATA FORM

EBMUD Project Title: <project name>

Test Date(s): _____

Equipment Name: Metal-Seated Knife Gate Valve

Section No.: 33 12 16.10

Tag No.: _____

P&ID No. _____

I. Pretest Documentation/Setup

| Documents: | Yes | No | NA | Comments: |
|--|--------------------------|--------------------------|-------------------------------------|-----------|
| a) Mfr Cert of Proper Installation provided | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| b) Technical Submittal complete (contractor show EDOCs record) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| c) Spare Parts provided | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| d) Final O&Ms provided (contractor show final O&Ms) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| e) Pipe pressure tests completed for adjacent piping (contractor to show test records). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Field Test Setup (Identify any test instrument, special setups like tanks, hoses, etc): | | | | |
| _____ | | | | |

II. Field Functional Test

| | | | | |
|--|--------------------------|--------------------------|-------------------------------------|-----------|
| 1. Calibration/Loop/Electrical | Yes | No | NA | Comments: |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2. Installation Check | Pass | Fail | NA | Comments: |
| 2.1 Correct equipment tags have been installed. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.2 All fields on Asset List Spreadsheet completed for device (Contractor shall show inspector at the time of the test that the asset list is complete and accurate for this system) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

FIELD FUNCTIONAL TEST DATA FORM

EBMUD Project Title: <project name>

Test Date(s): _____

Equipment Name: **Metal-Seated Knife Gate Valve**

Section No.: **33 12 16.10**

Tag No.: _____

P&ID No. _____

| | | |
|--|---|-----------|
| 3. Operations Check | <u>Pass</u> <u>Fail</u> <u>NA</u> | Comments: |
| 3.1 Verify valve opens in the correct direction (indicate opening direction, CW or CCW, in comments). | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | |
| 3.2 Count and record the number of turns of the nut, or handwheel required needed to fully open and close the valve. Compare with the submitted value to assure complete movement. | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | |
| 3.3 Verify that valves seal drip tight with normal static pressure on one side and atmospheric pressure on the other. The seal can be verified by opening a vent, drain or test valve opposite to the pressure side. | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | |
| 4. Controls Check | <u>Pass</u> <u>Fail</u> <u>NA</u> | Comments: |
| | <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> | |
| 5. Alarms Check | <u>Pass</u> <u>Fail</u> <u>NA</u> | Comments: |
| | <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> | |
| 6. Run Check | <u>Pass</u> <u>Fail</u> <u>NA</u> | Comments: |
| | <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> | |
| 7. Other Tests and Checks | <u>Pass</u> <u>Fail</u> <u>NA</u> | Comments: |
| | <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> | |

FIELD FUNCTIONAL TEST DATA FORM

EBMUD Project Title: <project name> Test Date(s): _____
Equipment Name: **Metal-Seated Knife Gate Valve** Section No.: **33 12 16.10**
Tag No.: _____ P&ID No. _____

III. Participants/Witness

Test conducted:

By (signature): _____ Date: _____
Title: _____ Company Name: _____

By (signature): _____ Date: _____
Title: _____ Company Name: _____

EBMUD Witness:

By (signature): _____ Date: _____
Title: _____

SECTION 01 45 27

SHOP INSPECTION

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included:

1. Provide the District's Plant Inspection Section with advanced notification for Short Term (three consecutive weeks or less at one facility), and Long Term (more than three consecutive weeks at one facility) inspection assignments, and reimburse the District for travel expenses described in this Section. Also see General Conditions Article 3.2.
2. Provide notification to the District's Plant Inspection Section of all work performed off the project site in fabrication, assembly, and coating plants; provide safe access to all areas where work is being performed.
3. The District reserves the right to use Third Party Inspectors in lieu of District personnel. All aspects of this section shall also apply to District contracted Third Party Inspectors.
4. For Long Term assignments provide the following:
 - a. Adequate office space including desk, office chair, lighting, and climate control;
 - b. A large format (up to 11 X 17 paper size) printer/scanner/copier and paper and printer supplies for the duration of the assignment;

B. Contractor and its Material Suppliers shall ensure that there shall be adequate lighting, ventilation, and safety procedures in place to permit safe and thorough inspection at all times.

C. All inspection and measurement tools and equipment employed by Contractor or Material Suppliers shall be made available to the District and remain in the area for inspection, and shall be subject to regular inspection and verification by the Contractor that such tools and equipment are properly calibrated and in an operable condition.

D. Contractor and its Material Suppliers shall identify in writing the person responsible for the receipt and coordination of all Inspector communications. A representative from the Material Supplier responsible for Quality Control shall be present and available to the Engineer at all times during the course of inspections.

- E. Contractor and its Material Suppliers shall respond promptly to address and correct all fabrication and inspection processes to comply with the Contract Documents. Corrective measures undertaken by the Contractor and/or Material Supplier shall be documented and the documentation made available for review, inspection and copying by the Engineer at all times.
- F. See individual sections, listed in Article 1.4, for specific processes requiring shop inspection.

1.2 WITNESS NOTIFICATION

- A. The Contractor shall provide advanced written notification including the following information:
 - 1. The related specification section(s);
 - 2. Details of materials, parts or components to be inspected/tested;
 - 3. Name and location of shop to be visited;
 - 4. Shop's contact information;
 - 5. Approved submittal number; and,
 - 6. Proposed dates for those processes described in this and related Sections (Quality Control) for each shop location.
- B. The shop where the inspections and tests will occur shall contact the District Plant Inspection Section at (510) 287-1132 to schedule all shop inspections. Visits will be scheduled based on Engineer's availability.
- C. Notification Schedule:

| ONE-WAY DISTANCE FROM OAKLAND | SHORT TERM ASSIGNMENTS | LONG TERM ASSIGNMENTS |
|-------------------------------|-------------------------|-------------------------|
| less than 75 miles | 5 work days in advance | 15 work days in advance |
| 75 to 200 miles | 10 work days in advance | 15 work days in advance |
| greater than 200 miles | 15 work days in advance | 20 work days in advance |
| international | 30 work days in advance | 30 work days in advance |

- D. Shift work outside of standard first shift work hours (7 AM to 5 PM), including changes to previously staffed shift work (excluding cancelation of

shift work), require advanced approval by the Engineer. Following approval by the Engineer, shift work shall start no sooner than the first Monday following 10 work days' notice for locations up to 200 miles from Oakland, and the first Monday following 15 work days' notice for locations over 200 miles from Oakland.

E. If the required notification is not given, the District will schedule the witness inspection at its convenience and the activity to be witnessed shall not proceed until the Engineer arrives or the Engineer notifies the Contractor that it is choosing to waive its witness inspections. In the event that the required notification is not given and the activity has occurred in the absence of the Engineer, the Engineer may reject the processes completed to date and require the activity to be redone.

1. Delays resulting from failure to provide the required notification will be non-excusable. Expenses incurred by delays; repeat of the work process; or to correct unacceptable work shall be borne by the Contractor.

F. Out of Country Inspection and Witnessing

1. Equipment and items of supply that are subject to witness inspection by the District as identified in Article 1.4, "Witness Schedule" and other contractually required work and all places to be used for their production or testing, shall be available to District personnel. The District's decision that such equipment, items, or work cannot be safely inspected or observed, including a decision that the country, area, or facility in which production or testing is to occur may not be safe for District personnel shall be final and shall preclude the Contractor's utilization of such country, area or facility. The District will consult the US Department of State website (http://travel.state.gov/travel/cis_pa_tw/cis_pa_tw_1168.html) for "Travel Warnings" to countries and regions to determine the safety of international travel. Areas with travel warnings shall not be considered for procurement of items that require District inspection.

1.3 TRAVEL EXPENSES

A. The Contractor shall include in the bid price all travel expenses for the Engineer to conduct the witness inspections noted if any of the inspections are to be performed at a locality exceeding 125 miles one way from Oakland, CA.

B. Travel expenses include hotel lodging at an establishment rated three diamond or better by American Automobile Association (AAA), or comparable listing, and a minimum \$61 meal and incidental expenses allowance per day, or at the rate established by US General Services

Administration (for domestic) or US Department of State (for international), whichever is greater, for the duration of the trip.

- C. If travel exceeds 200 miles one way from Oakland, CA, in addition to the expenses described in 1.3.B, travel expenses shall also include round trip direct route coach airfare from Oakland, CA; San Francisco, CA; Sacramento, CA; or San Jose, CA Airports to manufacturer's plant or testing facility, mid-sized car rental or taxi services, fuel, tolls, ground transportation to and from the airport, and airport parking at the departing airport; the following expenses shall apply as determined by the Engineer:
 - 1. For international or travel outside the continental United States, per diem rates are those established by the US Department of State for the specific location and dates of travel. Travel expenses may include the direct cost of securing passports, visas, language interpreters, document translators, communications, and internet access.
 - 2. If weekend stays are requested to defray transportation costs, reimbursement for the Engineers' stay over the weekend will include meal allowance, hotel expenses, phone and internet access charges, rental car or transportation charges to and from eating establishments, laundry service, language interpreters, or other necessary business expenses or services.
 - 3. Reimburse the District for any inspection that has to be repeated due to repair or rework of unacceptable work. Reimbursement shall include District Engineers' wages, or if done by a District agent, the agent's complete invoice for the needed inspection.
- D. All fees incurred such as airline reservation change fees, loss of fare due to purchase of nonrefundable tickets, hotel cancellation/rebooking fees, etc., due to Contractor-requested changes to the inspection schedule after the initial notification shall be borne by the Contractor.

1.4 WITNESS SCHEDULE

- A. The District will witness the following processes as specified in the applicable specification sections listed below or as required elsewhere in the Contract Documents. For purposes of estimating, anticipate that one Engineer will cover only one shift of shop inspection work per plant site. The costs for additional inspection required by the operation of more than one work shift per day or by more than one shop inspection site per day shall be included in the bid costs.

| Spec. Section | Section Title and Description |
|------------------|-------------------------------|
| 33 12 16.10 | Metal Seated Gate Valve |

PART 2 - PART 2 – NOT USED

PART 3 - PART 3 – NOT USED

END OF SECTION

MANUFACTURER'S CERTIFICATE OF PROPER INSTALLATION

OWNER: _____ EQPT SERIAL NO.: _____
EQPT TAG NO.: _____ EQPT/SYSTEM: _____
PROJECT NO.: _____ SPEC. & SECTION: _____

I hereby certify that the above-referenced equipment/system has been:

- | Complete | Not Applicable | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | Installed in accordance with Manufacturer's recommendations. |
| <input type="checkbox"/> | <input type="checkbox"/> | Inspected, checked, and adjusted. |
| <input type="checkbox"/> | <input type="checkbox"/> | Serviced with proper initial lubricants. |
| <input type="checkbox"/> | <input type="checkbox"/> | Electrical and mechanical connections meet quality and safety standards. |
| <input type="checkbox"/> | <input type="checkbox"/> | All system instruments are calibrated. |
| <input type="checkbox"/> | <input type="checkbox"/> | All applicable safety equipment has been properly installed. |

Comments: _____

I, the undersigned Manufacturer's Representative, hereby certify that I am (i) a duly authorized representative of the manufacturer, (ii) empowered by the manufacturer to inspect, approve, and operate the equipment and (iii) authorized to make recommendations required to assure that the equipment furnished by the manufacturer is complete and ready for startup and operations. I further certify that all information contained herein is true and accurate.

Date: _____

Manufacturer: _____

By Manufacturer's Authorized Representative: _____
(Authorized Signature)

O&M MANUAL REVIEW CHECKLIST
 (Manufacturer's Representative to complete one form per submittal)

| | |
|--|--|
| SPEC. SECTION TITLE & NO: | |
| MFR Name, Address, Phone: | |
| Local Rep Name, Address, Phone: | |

| GENERAL FORMAT (See Section 01 33 00 for additional details) | | | |
|--|-----------|----|----------|
| DESCRIPTION | PROVIDED? | | COMMENTS |
| | YES | NO | |
| Specified copies provided | | | |
| Binder cover clearly labeled | | | |
| Spine Label | | | |
| System/Equipment type clearly identified | | | |
| District facility or facilities name(s) identified | | | |
| Specification number & title shown | | | |
| Title page provided | | | |
| Equipment tag numbers correctly shown | | | |
| Manufacturer's name, address, phone number provided | | | |
| Local Representative's name, address, phone number provided | | | |
| Table of contents provided | | | |
| Heavy section dividers w/ numbered or lettered plastic tabs provided | | | |
| Pages punched for 3-ring binder | | | |
| Info larger than 8-1/2 x 11 folded showing title block | | | |
| Original quality copies provided | | | |

| TECHNICAL CONTENT (See Section 01 33 00 for details) | | | | |
|---|-----------------|-------|-----|----------|
| DESCRIPTION | LOCATION IN O&M | | | COMMENTS |
| | TAB# | PAGES | N/A | |
| Equipment Descriptions | | | | |
| • Equipment names, model numbers & tag numbers | | | | |
| • Equipment & major component functions | | | | |
| • Drawings, diagrams & illustrations | | | | |
| • Equipment Specification | | | | |
| • Bill of materials | | | | |
| • Legend, Abbreviation, and Acronym List | | | | |
| Performance Information | | | | |
| • Nameplate data | | | | |
| • Performance test data/curves | | | | |

| TECHNICAL CONTENT (See Section 01 33 00 for details) | | | | |
|---|----------------------------|--------------|------------|-----------------|
| DESCRIPTION | LOCATION IN O&M | | | COMMENTS |
| | TAB# | PAGES | N/A | |
| Installation Instructions | | | | |
| • Installation procedures & drawings | | | | |
| • Equipment tolerances | | | | |
| • Adjustment procedures | | | | |
| Operating Instructions | | | | |
| • Startup procedures | | | | |
| • Normal & routine operations | | | | |
| • Control functions | | | | |
| • Alarms description and settings | | | | |
| • Shutdown procedures | | | | |
| • Emergency operations | | | | |
| Electrical Information | | | | |
| • Nameplate data | | | | |
| • Relay, control, alarm contact settings | | | | |
| • Motor test data | | | | |
| Electrical Drawings | | | | |
| • Single-line diagrams, three-line diagrams | | | | |
| • Interconnection wiring diagram | | | | |
| • Schematic and elementary diagrams | | | | |
| • Panel layout drawings | | | | |
| Instrumentation & Control | | | | |
| • Control diagrams | | | | |
| • Panel layout drawings | | | | |
| • Instrument data sheets (specification forms) | | | | |
| • Calibration Procedures | | | | |
| • Final settings for adjustable control devices | | | | |
| • Block diagrams and riser diagrams | | | | |
| • Loop diagrams | | | | |
| • Pneumatic/Hydraulic piping drawings | | | | |
| • Hard copy printouts of control programs | | | | |
| • Field calibration data sheets | | | | |
| • Programming software (licensed to EBMUD) with user manuals | | | | |
| Shipping and Storage Instructions | | | | |
| Testing | | | | |
| • Factory Test Report (procedures and results) | | | | |
| • Field Test Procedures | | | | |
| • Manufacturer's Certificate of Proper Installation (where specified) | | | | |
| • Field Test Results | | | | |
| Troubleshooting guide | | | | |

| TECHNICAL CONTENT (See Section 01 33 00 for details) | | | | |
|---|----------------------------|--------------|------------|-----------------|
| DESCRIPTION | LOCATION IN O&M | | | COMMENTS |
| | TAB# | PAGES | N/A | |
| Safety | | | | |
| • Safety procedures/Lockout discussion | | | | |
| • CAUTION, WARNING, DANGER text | | | | |
| • Material Safety Data Sheets (MSDS) | | | | |
| • Special safety equipment | | | | |
| Preventive Maintenance | | | | |
| Maintenance Summary Forms | | | | |
| Lubrication Information | | | | |
| • Location of lube points & frequency | | | | |
| • Recommended type & grade, state specific MFR | | | | |
| • Recommended viscosity & temperature range | | | | |
| Overhaul Instructions | | | | |
| • Detailed assembly drawings w/OEM part numbers | | | | |
| • Tear down/rebuild instructions | | | | |
| Spare Parts for Equipment & Components | | | | |
| • Predicted life of parts subject to wear or aging | | | | |
| • Recommended spare parts list w/ part numbers | | | | |
| • Complete instructions for obtaining parts | | | | |
| • Long-term storage requirements | | | | |
| • Special tools | | | | |
| Long-term Shutdown/Lay-up Instructions | | | | |
| Warranty/Guarantee | | | | |

TYPICAL MAINTENANCE SUMMARY FORM

(Use as many pages as necessary. This form is available in MS Word format upon request)

1. Equipment Name: _____

2. Manufacturer: _____

3. Identification Numbers:

Tag: _____

Model: _____

Serial: _____

4. Nameplate Data (HP, voltage, speed, flow rate, head, etc.): _____

5. Manufacturer's Local Representative:

Name: _____

Telephone: _____

Address: _____

6. LUBRICANT LIST

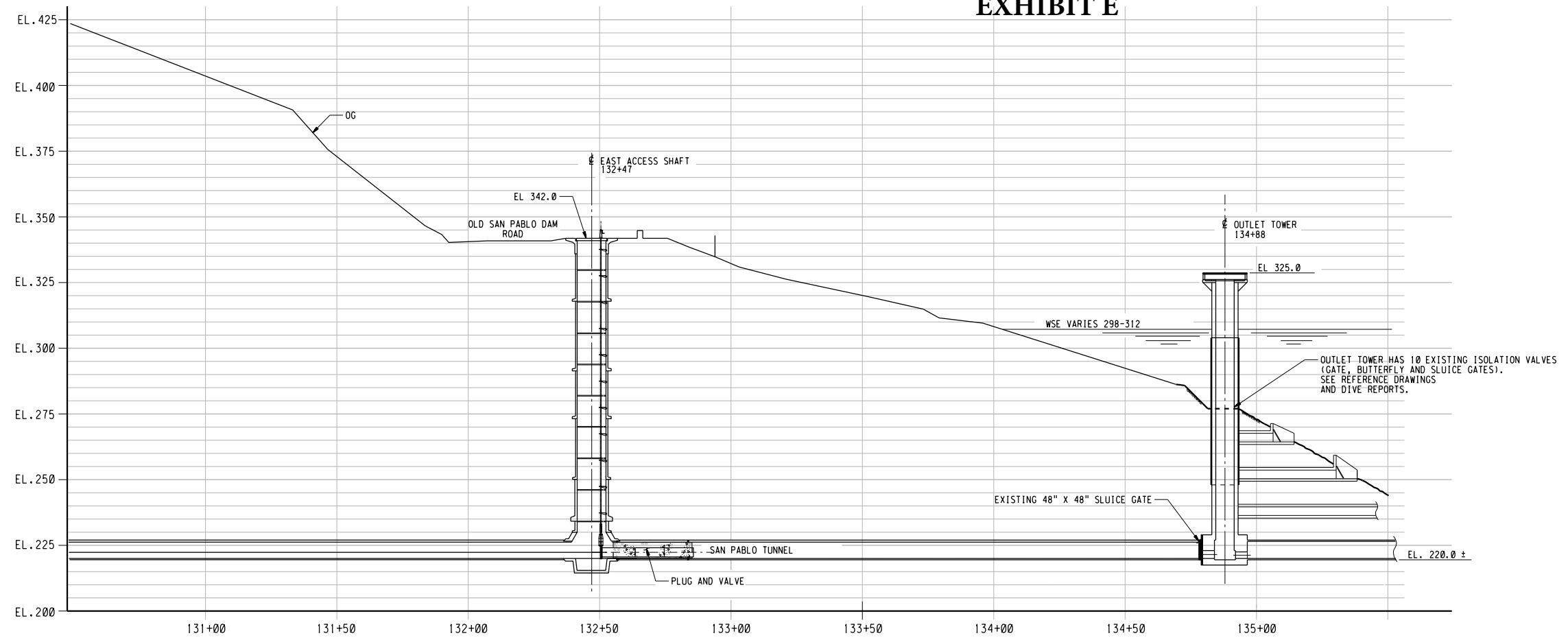
| <u>Reference Symbol</u> List symbols used in Item 8 below | <u>Lubricant Description</u> List equivalent lubricants: brand name(s), type, grade, viscosity, etc. |
|--|---|
| | |
| | |
| | |

7. SPARE PARTS (Recommendation spare parts with part numbers; if any.)

| <u>OEM Part#</u> | <u>Part Name-Description</u> |
|------------------|------------------------------|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

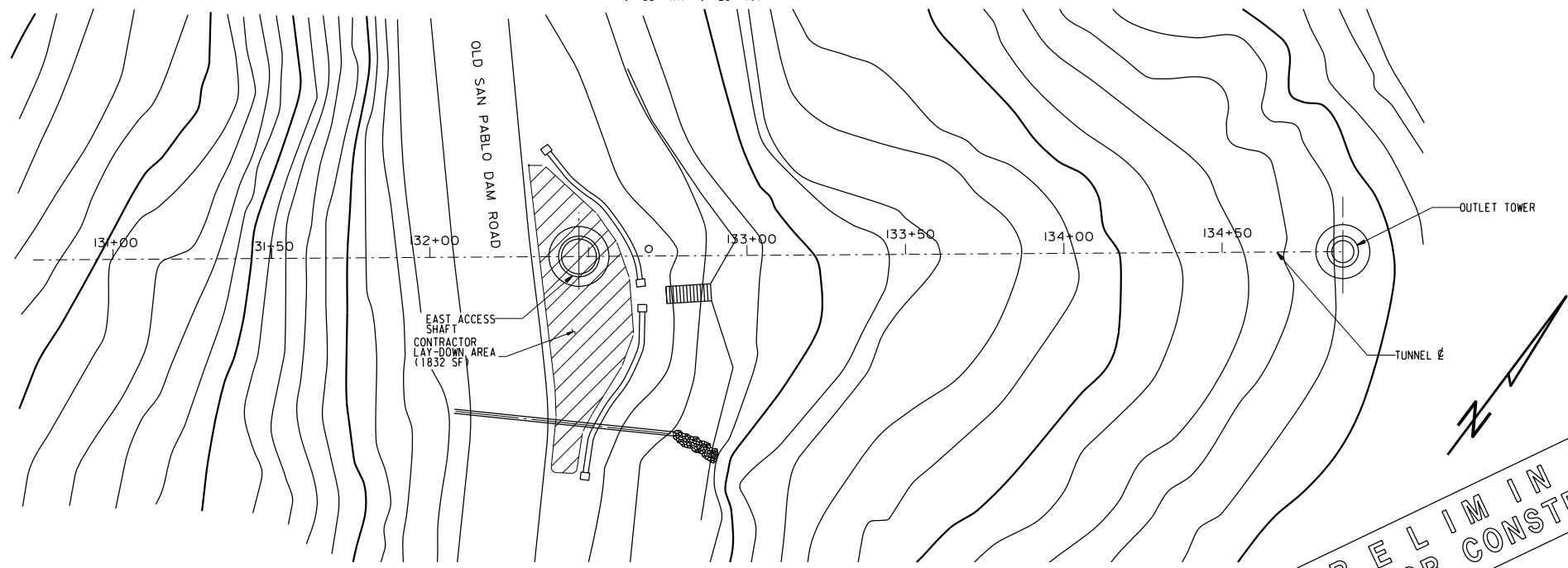
8. Equipment Replacement Cost [\$] _____

EXHIBIT E



TUNNEL PROFILE

1"=50' (H) : 1"=25' (V)



PLAN

1"=50'

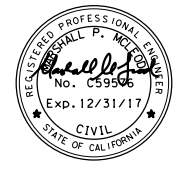
3" ON ORIGINAL DOCUMENT
0 1 2 3

NOTES

1. SEE REFERENCE DRAWINGS 1168-G REV1, 2499-G, S-1429-2, 1590-G AND E-1043.

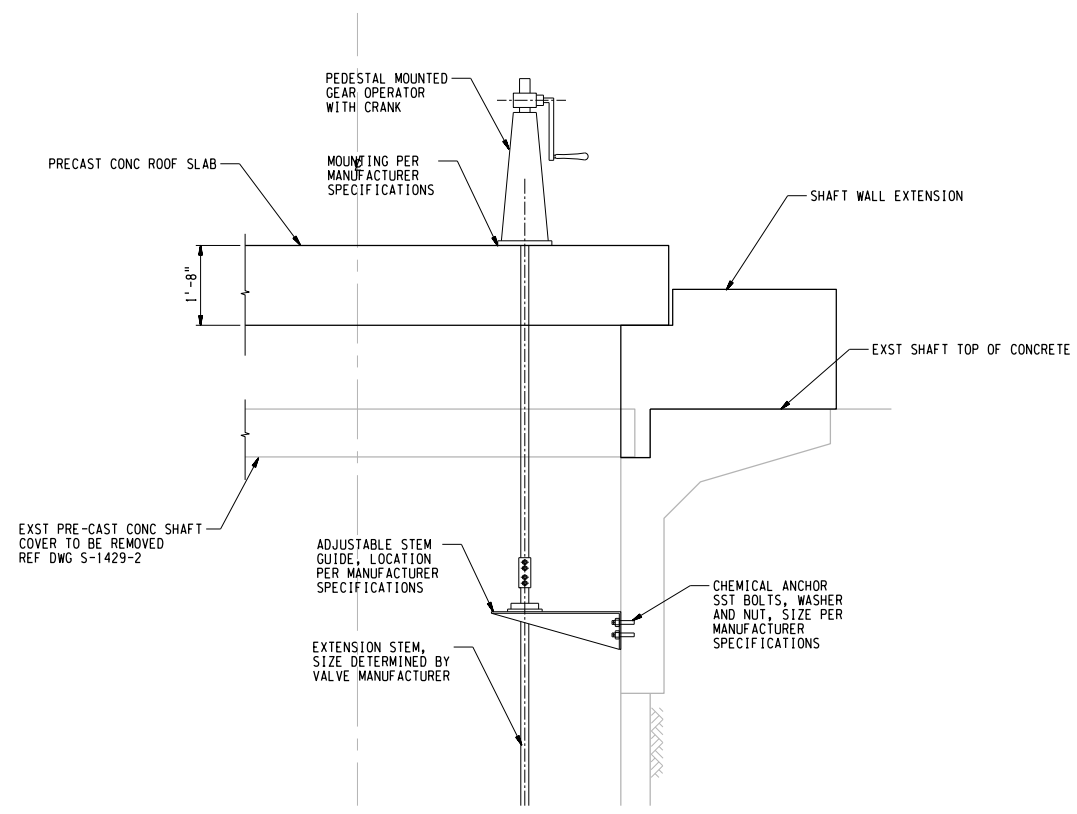
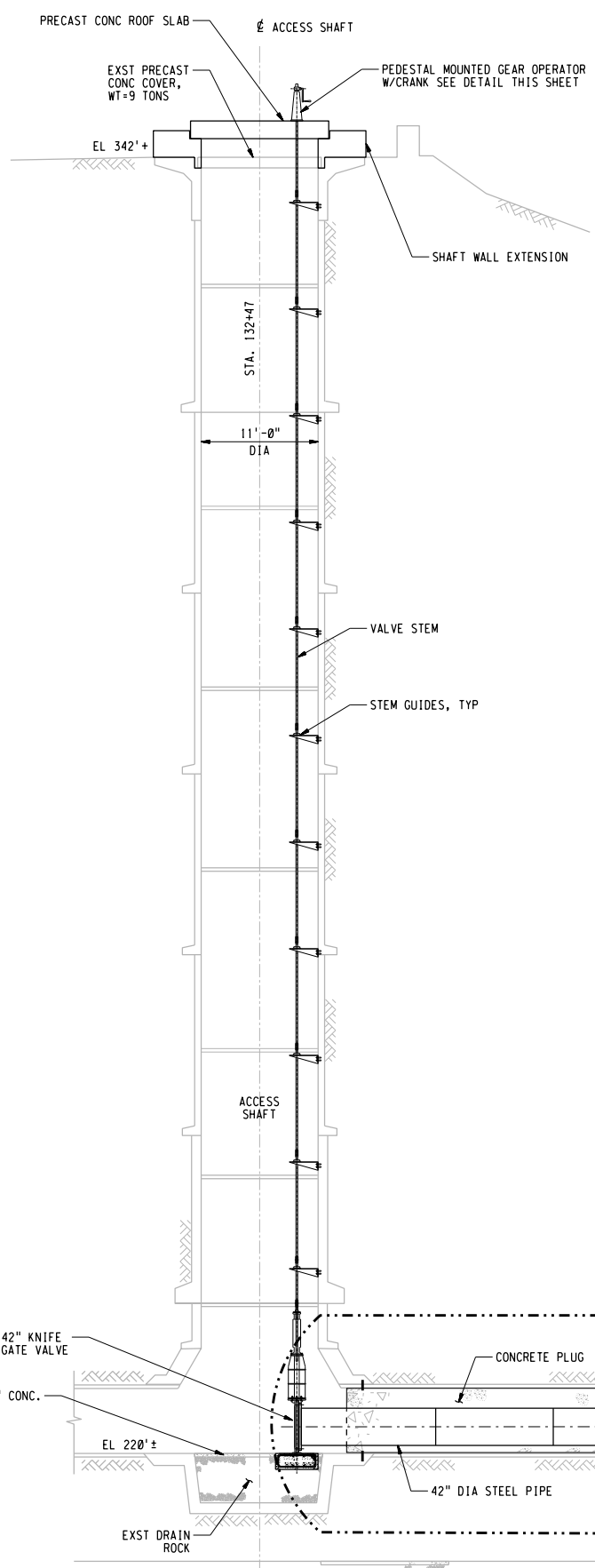
**PRELIMINARY
NOT FOR CONSTRUCTION**

**SIGNATURES
NOT VALID**

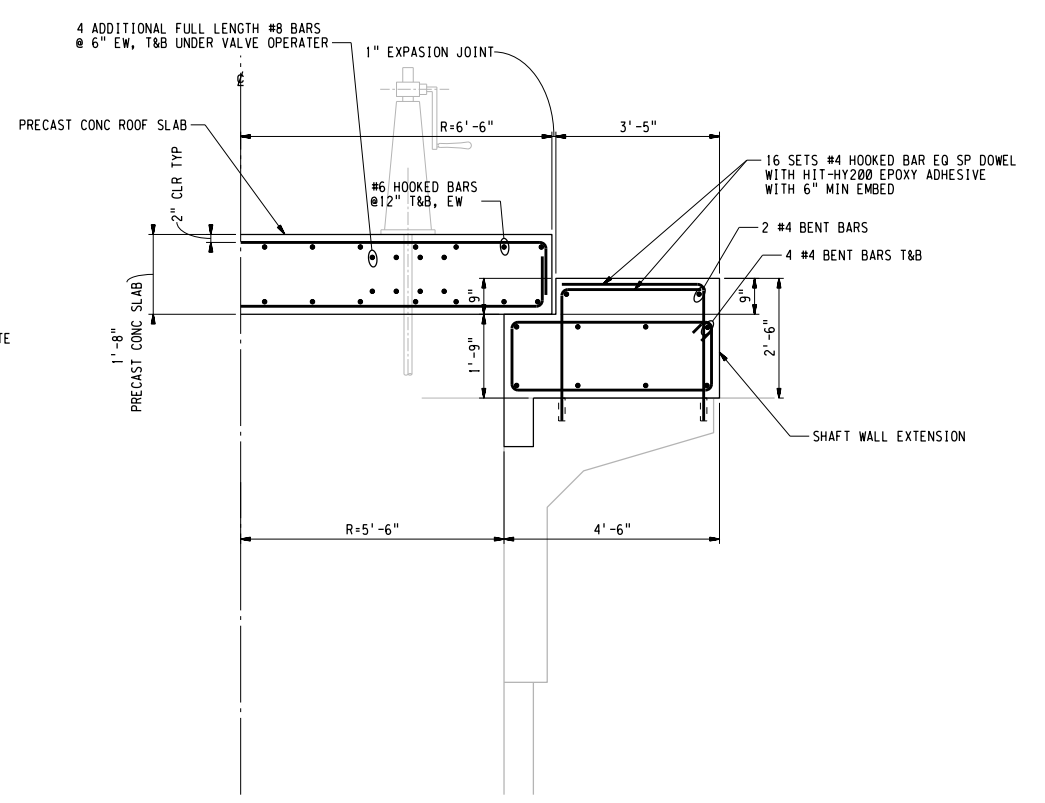


USER: qpc
 DATE: 06-JAN-2017 09:08
 FILE: H:\SSTOR-STWSSAMP\010524.13-52413C001.R00

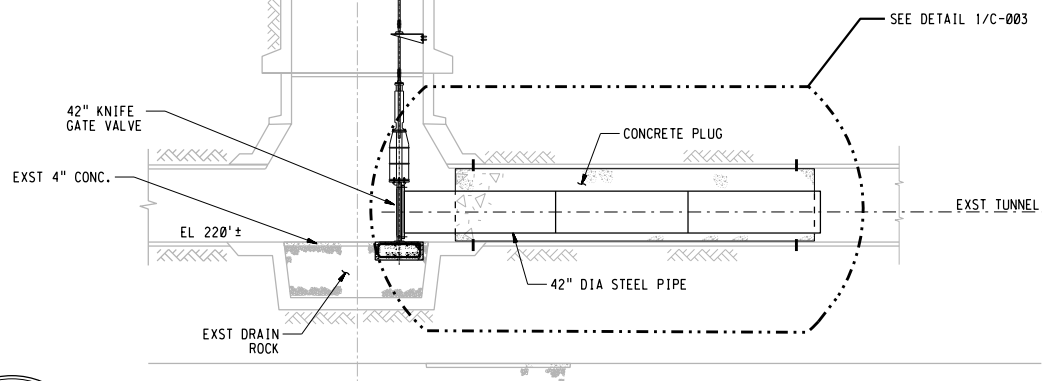
| | | | |
|--|---|-----------------|--------------|
| DESIGNED BY <i>Marshall P. McClellan</i> | EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA | | |
| DESIGN CHECKED BY <i>Florence Wadsworth</i> | SAN PABLO TUNNEL EAST ACCESS SHAFT IMPROVEMENTS CIVIL | | |
| DRAWN BY FACILITY DRAFTING | OUTLET TOWER AND TUNNEL PLAN AND PROFILE | | |
| PROJECT ENGINEER <i>Marshall P. McClellan</i> | PROJ. NO. 524.13-C-001 | SCALE 1"=50' | REV. 0 |
| APPROVED MGR. OF DESIGN <i>Carlton D. Chan</i> | DATE | STRUCT. | DISC. |
| NO. | DATE | REVISION | BY REC. APP. |



PEDESTAL MOUNTED GEAR OPERATOR WITH CRANK
 1/2"=1'-0"



REINFORCEMENT DETAIL
 1/2"=1'-0"

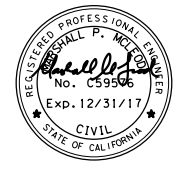


ACCESS SHAFT AND PLUG
 1/8"=1'-0"

PRELIMINARY
 NOT FOR CONSTRUCTION

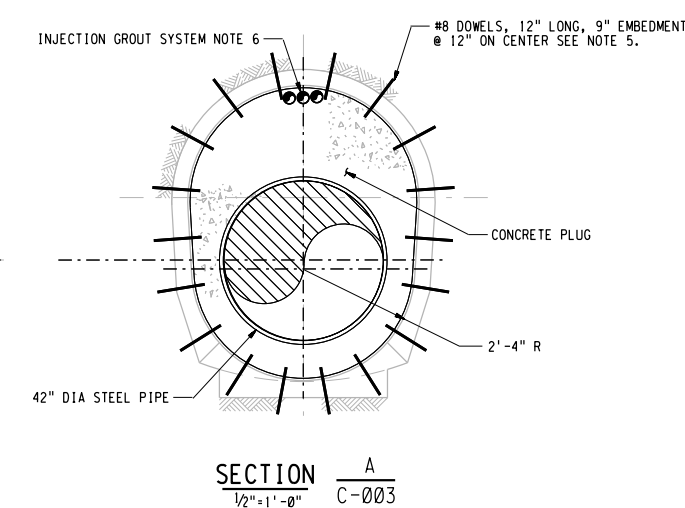
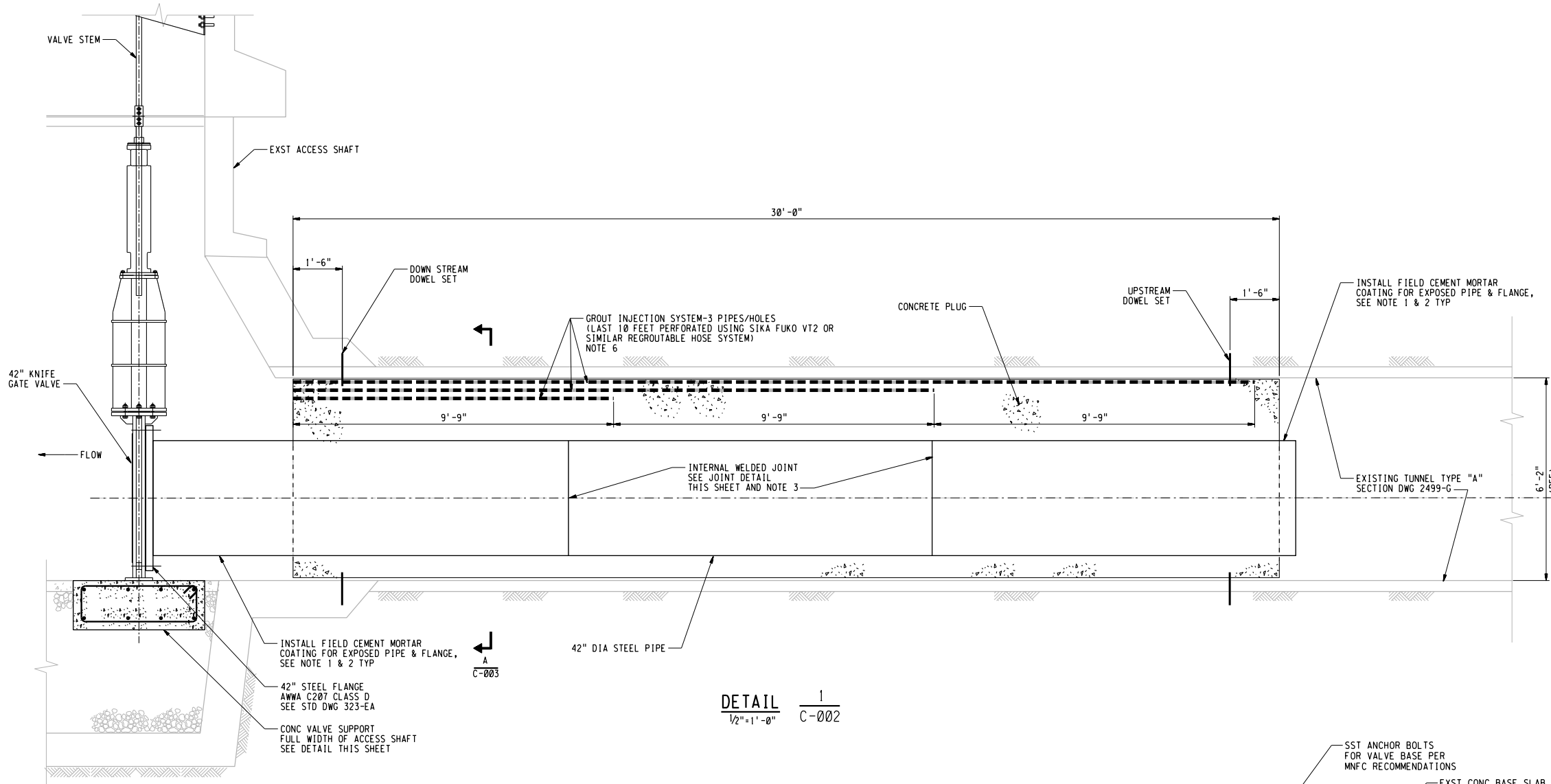
3" ON ORIGINAL DOCUMENT
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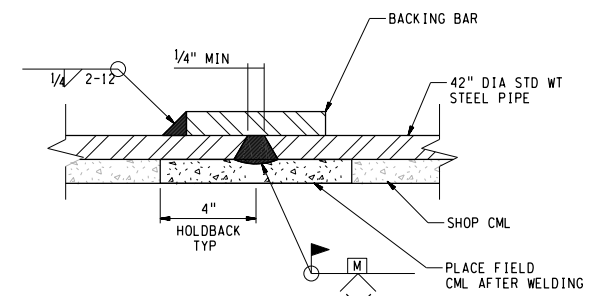
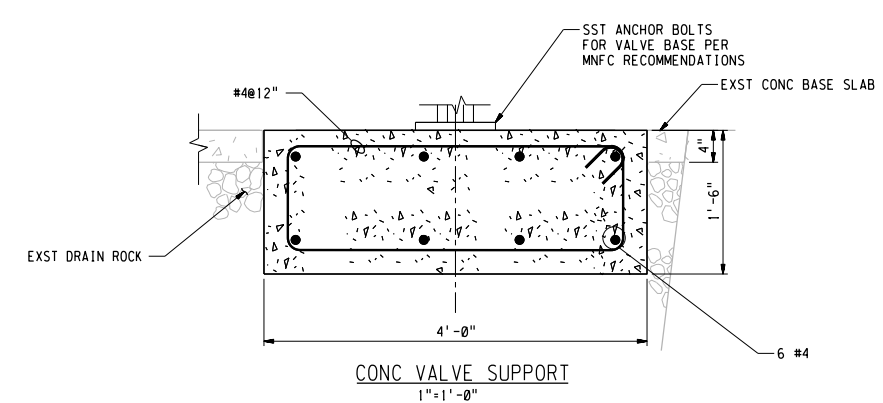


| NO. | DATE | REVISION | BY | REC. | APP. |
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| DESIGNED BY <i>Marshall P. McCleod</i> | EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA |
| DESIGN CHECKED BY <i>Storace Wadsworth</i> | SAN PABLO TUNNEL EAST ACCESS SHAFT IMPROVEMENTS CIVIL |
| DRAWN BY FACILITY DRAFTING | EAST ACCESS SHAFT SECTION |
| PROJECT ENGINEER <i>Marshall P. McCleod</i> | PROJ. NO. 524.13-C-002 |
| RECOMMENDED BY SENIOR CIVIL ENGR. R.P.E. NO. C59576 | SCALE NONE |
| APPROVED BY NOR. OF DESIGN R.P.E. NO. C57170 <i>Carlton D. Chan</i> | DATE |
| | STRUCT. DISC. NUMBER REV. |



DETAIL 1
1/2"=1'-0" C-002



CJP GROOVE WELDED JOINT
NTS

- NOTES
1. CEMENT MORTAR COATING REINFORCEMENT: 2"x 4" W0.5 X W0.5 MIN GALV SELF-FURRING WELDED WIRE FABRIC. LAP ENDS 4" MIN. WIRE OR WELD TOGETHER AND TACK WELD AT TWO POINTS MIN TO STEEL CYLINDER.
 2. FIELD CEMENT MORTAR COATING PER SPEC SECTION 33 11 13.60.
 3. CONTRACTOR SHALL PROVIDE IN LENGTHS SHORT ENOUGH FOR INSTALLATION THROUGH SHAFT AND SUIT AVAILABLE EQUIPMENT.
 4. PIPE TO BE SECURELY BLOCKED AGAINST FLOTATION BEFORE CONCRETING.
 5. DRILL AND BOND DOWELS SHALL BE #8 REBAR (1" DIA) AND CONFORM TO ASTM A615 GRADE 60. INSTALL ACCORDING TO MNFC INSTRUCTIONS.
 6. INJECTION SYSTEM DRAWN AT EXAGGERATED SCALE FOR CLARITY. TO BE INSTALLED AT TUNNEL CROWN.

PRELIMINARY
NOT FOR CONSTRUCTION

3" ON ORIGINAL DOCUMENT

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| DESIGNED BY <i>Marshall P. McClellan</i> | EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA | | |
| DESIGN CHECKED BY <i>Storace Wadsworth</i> | SAN PABLO TUNNEL EAST ACCESS SHAFT IMPROVEMENTS CIVIL | | |
| DRAWN BY FACILITY DRAFTING | TUNNEL PLUG DETAIL AND SECTION | | |
| PROJECT ENGINEER <i>Marshall P. McClellan</i> | PROJ. NO. 524.13-C-003 | SCALE NONE | 0 |
| RECOMMENDED BY <i>Marshall P. McClellan</i> | DATE | STRUCT. | DISC. |
| APPROVED BY <i>Carlton D. Chan</i> | DATE | NUMBER | REV. |



SIGNATURES
NOT VALID

| NO. | DATE | REVISION | BY | REC. | APP. |
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PROJECT DRAWINGS

GENERAL DRAWINGS

524.13-Z-001.1 LIST OF DRAWINGS, LOCATION, VICINITY MAP AND PROJECT LOCATION

CIVIL

- 524.13-C001 OUTLET TOWER AND TUNNEL-PLAN AND PROFILE
- 524.13-C002 EAST ACCESS SHAFT-SECTION
- 524.13-C003 TUNNEL PLUG-DETAIL AND SECTION

STRUCTURAL

- 524.11-S-001 OFFSET LADDER SECTIONS, DETAILS, AND NOTES
- 1168-G, REV2 CONCRETE INLET BOX FOR BOTTOM TUNNEL AT INLET TOWER

REFERENCE DRAWINGS

- 1168-G, REV1 CONCRETE INLET BOX FOR BOTTOM TUNNEL AT INLET TOWER
- 1506 R SAN PABLO TUNNEL
- 1590-G TOWER ALTERATIONS FOR 4'-0" X 4'-0" SLUICE GATES
- 2499-G TYPICAL TUNNEL SECTIONS
- S-1429-2 EAST PORTAL ACCESS SHAFT
- 4739-G-1 BUTTERFLY VALVE INSTALLATION
- 5906-G-2 CONSTRUCTION ACCESS
- E-1043 GENERAL LAYOUT OF GATES AND TUNNELS
- E-1044 OUTLET TOWER DECK AND RAILING REINFORCEMENT

GENERAL NOTES

- DIMENSIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE. FIELD DIMENSIONS, TO BE OBTAINED BY THE CONTRACTOR, WILL BE REQUIRED TO COMPLETE THE WORK. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT THE SITE BEFORE STARTING WORK, AND IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCIES.
- THE SCOPE OF THE PROJECT IS DEFINED BY THE DRAWINGS AND SPECIFICATIONS AND INCLUDES ALL LABOR, MATERIALS AND EQUIPMENT TO ACCOMPLISH THE WORK. TYPICAL DETAILS AND GENERAL NOTES ARE APPLICABLE UNLESS OTHERWISE DETAILED OR NOTED ON THE DRAWINGS. THE PROJECT SPECIFICATIONS AND NOTES OR DETAILS ON THE DRAWINGS TAKE PRECEDENCE OVER TYPICAL DETAILS AND GENERAL NOTES.
- AT ALL TIMES, CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS AT THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, AND FOR ALL REQUIRED INDEPENDENT ENGINEERING REVIEWS OF THESE CONDITIONS. THE ENGINEER'S JOB SITE REVIEW IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES.
- INSTALL OR APPLY ALL MATERIALS SPECIFIED OR SHOWN IN THESE DRAWINGS IN STRICT CONFORMANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- CONTRACTOR SHALL FULLY ACQUAINT THEMSELVES WITH ALL EXISTING CONDITIONS PERTAINING DIRECTLY TO, ADJACENT TO AND PERIPHERALLY TO THE SCOPE OF WORK. CONTRACTOR SHALL COMPLETELY FAMILIARIZE THEMSELVES WITH THE FACILITY AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. LACK OF KNOWLEDGE ON THE PART OF THE CONTRACTOR SHALL IN NO WAY PROVIDE RELIEF FROM CONTRACTOR'S OBLIGATIONS AND RESPONSIBILITIES.
- PROVIDE ADEQUATE BRACING AND SUPPORT OF TEMPORARY CONSTRUCTION AND TEMPORARILY UNSUPPORTED OR PARTIALLY SUPPORTED PORTIONS OF THE WORK. BRACING AND SUPPORT SHALL ENSURE THE SAFETY OF THE STRUCTURE AND ALL PERSONS WHO COME IN CONTACT WITH THE PROJECT.

DRAINAGE

- THE TEMPORARY DAM IN THE TUNNEL SHALL CONSIST OF SAND BAGS OR SIMILAR TO DAM THE LEAKAGE FROM THE TOWER (ESTIMATED MAXIMUM FLOW OF 100 GPM) TO ALLOW WORK ON THE PLUG TO BE PERFORMED IN THE DRY.
- THE TEMPORARY DRAIN PIPE SHALL BE SIZED FOR THE MAXIMUM FLOW AND THE WATER CONVEYED THROUGH THE PLUG AREA BY MEANS OF PUMPING OR GRAVITY FLOW.
- FIX THE DRAIN PIPE AGAINST THE TUNNEL WALL THROUGH THE PLUG AREA.
- THE DRAIN PIPE SHALL BE VALVED TO ALLOW CLOSURE AND GROUTING TO PERMANENTLY SEAL THE DRAIN PIPE AFTER COMPLETION OF PLUG CONSTRUCTION.
- GROUT DRAIN PIPE WITH NON-SHRINK GROUT PER SECTION 03 62 00 NON-SHRINK GROUTING.

INJECTION GROUTING

- INJECTION GROUT SHALL BE A CEMENT ONLY GROUT WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3,000 PSI.
- CONFIRM SUITABILITY OF INJECTION GROUT WITH MANUFACTURER OF INJECTION HOSE SYSTEM.

TUNNEL PLUG CONSTRUCTION SEQUENCE

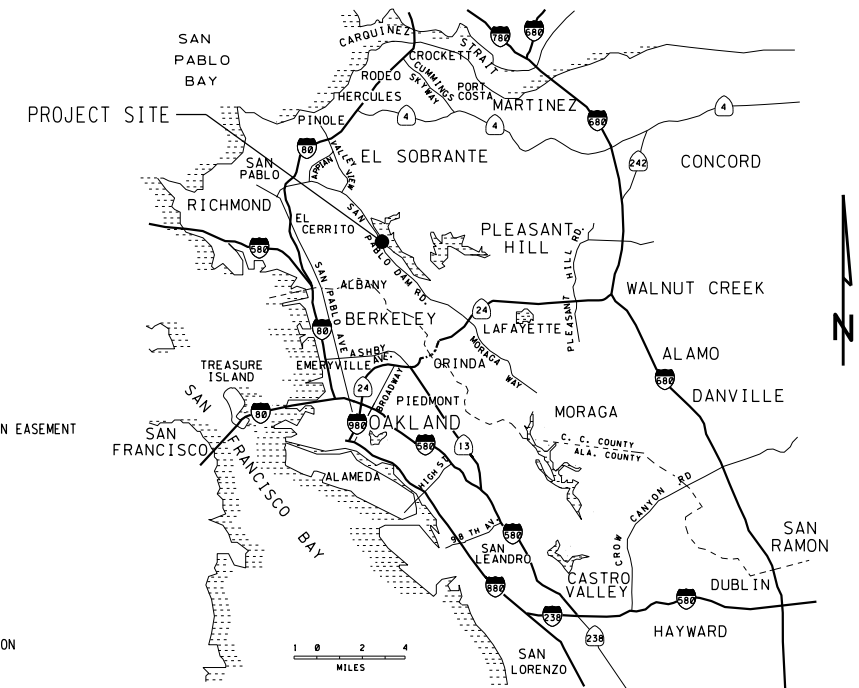
- PREPARE OUTLET TOWER FOR SAFE TUNNEL ENTRY PER SPEC SECTION 01 14 00 WORK RESTRICTIONS.
- PROVIDE VENTILATION FOR EAST ACCESS SHAFT AND SAN PABLO TUNNEL WORK AREA. SEE TUNNEL OSHA CLASSIFICATION OF "POTENTIALLY GASSY WITH SPECIAL CONDITIONS" (APPENDIX B), AND SPEC SECTION 01 35 24.
- INSTALL A TEMPORARY DAM IN THE TUNNEL UPSTREAM OF THE WORK AREA AND DIVERT THE LEAKAGE WATER THROUGH THE WORK AREA A WITH A TEMPORARY DRAIN PIPE. SEE NOTES UNDER "DRAINAGE".
- CLEAN THE TUNNEL CONCRETE SURFACE OF THE PLUG AREA OF ALL SLIME AND ORGANIC MATERIAL WITH HIGH PRESSURE WATER BLASTING.
- INSTALL THE UPSTREAM FORM WORK.
- INSTALL THE TWO CIRCUMFERENTIAL SETS OF DOWELS.
- INSTALL THE INJECTION GROUT SYSTEM IN THE CROWN OF THE PLUG AREA.
- INSTALL 42" DIA PIPE, BLOCKED AS REQUIRED TO PREVENT FLOATING WITHIN THE CONCRETE PLUG AREA.
- INSTALL THE DOWNSTREAM FORM WORK.
- CAST THE CONCRETE PLUG.
- THREE DAYS AFTER CASTING, THE DOWNSTREAM FORM WORK MAY BE REMOVED.
- A MINIMUM OF 28 DAYS AFTER CASTING THE CONCRETE PLUG, PERFORM INJECTION GROUTING OF THE PLUG CROWN AND SEAL OFF THE TEMPORARY DRAINPIPE. SEE NOTES UNDER "INJECTION GROUTING" THIS PAGE.
- INSTALL KNIFE GATE VALVE WITH STEM AND OPERATOR AND CONSTRUCT OTHER SHAFT IMPROVEMENTS.
- CLEAN THE BOTTOM OF THE SHAFT, RESTORE THE SITE TO THE CONDITION AS BEFORE WORK COMMENCED.

PIPES AND VALVES

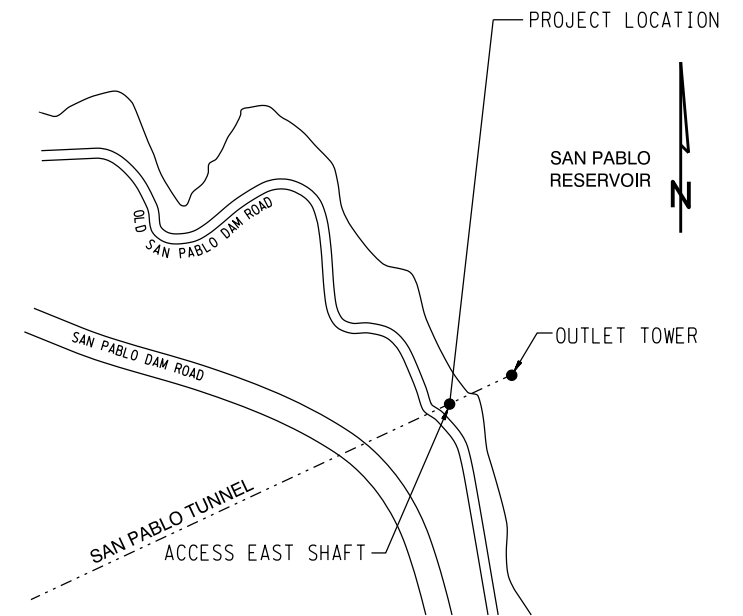
- STEEL PIPE SHALL BE 42" DIA STD WT STEEL PIPE (T=0.375 IN) CEMENT MORTAR LINED AND BARE STEEL EXTERNALLY AND CONFORM TO THE REQUIREMENTS OF SPEC SECTION 40 20 20.
- PER SPEC 01 64 05 KNIFE GATE OPERATOR, STEM, AND STEM GUIDES ARE DISTRICT FURNISHED. SEE SECTION 33 12 16.10 FOR INSTALLATION CONTRACTOR RESPONSIBILITIES.
- INSTALL A VERTICAL VALVE STEM AND STEM GUIDES UP TO THE SHAFT COVER SLAB. STEM GUIDES SHALL BE ATTACHED TO THE SHAFT LINING AT INTERVALS SPACED PER MNFC RECOMMENDATION.
- FOR CML REQUIREMENTS IN THE SHOP AND FIELD LINING AT JOINTS, SEE SPEC SECTION 33 11 13.50 MORTAR LINING FOR STEEL PIPE.
- FOR FIELD APPLICATION OF CEMENT MORTAR COATING SEE SPEC SECTION 33 11 13.60 MORTAR COATING FOR STEEL PIPE.

ABBREVIATIONS

| | | | |
|--------|--|----------|---------------------------------|
| CLR | CLEARANCE | SECT | SECTION |
| CML | CEMENT MORTAR LINING | SF | SQUARE FEET |
| CF | CUBIC FEET | SIM | SIMILAR |
| CJP | COMPLETE JOINT PENETRATION | SPEC | SPECIFICATION |
| CONC | CONCRETE | STD | STANDARD |
| CONN | CONNECTION | STRUC | STRUCTURE |
| CONT | CONTINUOUS | SST | STAINLESS STEEL |
| | | STA | STATION |
| | | SYM | SYMMETRICAL |
| DET | DETAIL | t | STEEL WALL THICKNESS |
| DIA | DIAMETER | T&B | TOP AND BOTTOM |
| DWG | DRAWING | TBD | TO BE DETERMINED |
| | | TCE | TEMPORARY CONSTRUCTION EASEMENT |
| EL | ELEVATION | TOC | TOP OF CONCRETE |
| EQ | EQUAL | TYP | TYPICAL |
| EW | EACH WAY | | |
| EXST | EXISTING | UG | UNDERGROUND |
| | | UTL,UTIL | UTILITY |
| FC | FACE OF CONCRETE | W/ | WITH |
| FG | FINISHED GRADE | WT | WEIGHT |
| FT | FEET OR FOOT | WSE | WATER SURFACE ELEVATION |
| | | | |
| GALV | GALVANIZED | | |
| GA/T5 | GALVANIC ANODE TEST STATION | | |
| GR | GRADE | | |
| GTS | GROUND TEST STATION | | |
| | | | |
| HORIZ | HORIZONTAL | | |
| | | | |
| ID | INSIDE DIAMETER | | |
| IJTS | INSULATING JOINT TEST STATION | | |
| | | | |
| JT | JOINT | | |
| | | | |
| MH | MANHOLE | | |
| MAX | MAXIMUM | | |
| MIN | MINIMUM | | |
| MNFC | MANUFACTURE | | |
| ML | MORTAR LINED | | |
| ML&CS | MORTAR LINED AND COATED STEEL | | |
| ML&DCS | MORTAR LINED AND DIELECTRICALLY COATED STEEL | | |
| | | | |
| NOM | NOMINAL | | |
| NTS | NOT TO SCALE | | |
| | | | |
| OC | ON CENTER | | |
| OD | OUTSIDE DIAMETER | | |
| OH | OVERHEAD | | |
| | | | |
| P&ID | PROCESS AND INSTRUMENTATION DIAGRAM | | |
| PSIG | POUNDS PER SQUARE INCH GAGE | | |
| | | | |
| R | RADIUS | | |
| RED | REDUCER | | |
| REQD | REQUIRED | | |
| R/F | REINFORCING BARS | | |
| ROW | RIGHT OF WAY | | |



LOCATION MAP
N.T.S.



VICINITY MAP
N.T.S.

DIRECTOR OF ENGINEERING & CONSTRUCTION R.P.E. NO.

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SPECIFICATION NO. 2118

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| DESIGNED BY <i>Manuel De Jesus</i> | EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA | | |
| DESIGN CHECKED BY <i>Florence Wadsworth</i> | SAN PABLO TUNNEL EAST ACCESS SHAFT IMPROVEMENTS GENERAL | | |
| DRAWN BY <i>Manuel De Jesus</i> | LIST OF DRAWINGS, LOCATION VICINITY MAP, AND GENERAL NOTES | | |
| PROJECT ENGINEER <i>Manuel De Jesus</i> | PROJ. NO. 524.13-Z-001.1 | SCALE NONE | REV. 0 |
| APPROVED: <i>Carlton Chan</i> | DATE | STRUCT. | DISC. |

