



TRUCKEE DONNER

PUBLIC UTILITY DISTRICT

TRUCKEE DONNER PUBLIC UTILITY DISTRICT
TRUCKEE, CALIFORNIA

DONNER TRAILS TANK NO. 2
INTERIOR COATING REHABILITATION
CONTRACT AND TECHNICAL SPECIFICATIONS

BID SET

VOLUME 1 OF 1

JULY 2026

Digitally signed by Richard Luis Gutierrez
Contact Info: Carollo Engineers, Inc.
Date: 2026.07.17 14:37:47 -07'00'



TRUCKEE DONNER PUBLIC UTILITY DISTRICT
DONNER TRAILS TANK NO. 2
INTERIOR COATING REHABILITATION

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SECTION 00030 – NOTICE TO BIDDERS

Notice is hereby given that the Board of Directors of Truckee Donner Public Utility District, Nevada County, California, herein referred to as the "DISTRICT", will receive sealed bids at the District office, 11570 Donner Pass Road, Truckee California 96161 until 2:00 PM, Wednesday, August 19, 2026, at which time they shall be opened and publicly read for:

DONNER TRAILS TANK NO. 2 INTERIOR COATING REHABILITATION

The WORK of this Contract comprises the construction of the following:

- Rehabilitation of the interior coating system for a 160,000 gallon above-grade welded steel water storage tank
- Installation of a galvanic anode cathodic protection system

Bidding Documents are provided to prospective Bidders to enable them to prepare a Bid. Documents required to be submitted with the Bid are identified in Section 00100 - Instructions to Bidders.

This project is a public works project and is subject to compliance monitoring and enforcement by the California Department of Industrial Relations (DIR), in accordance with the California Labor Code Section 1770, et seq. No contractor or subcontractor may be listed on a bid for a public works project and no contractor or subcontractor may be awarded a contract for public works unless registered with the DIR, pursuant to Labor Code Section 1725.5.

The successful Bidder shall not pay less than the prevailing rate of per diem wages as determined by the Director of the DIR. Copies of the prevailing rate of per diem wages are on file with the DISTRICT and may also be found on the DIR website at www.dir.ca.gov/dlsr/statistics_research.html. Questions pertaining to predetermined wage rates should be directed to the California Division of Labor Statistics and Research,

No bid will be considered unless it is made on the form provided and accompanied by Certified Check, Cashier's Check, or Bidder's Bond for 10% of the amount of the Bid, made payable to the "Truckee Donner Public Utility District". The above-mentioned check or bid bond shall be given as a guarantee that the Bidder executes the Contract, if it be awarded to it, in conformity with the Contract Documents. If a Bidder's Bond is used, the bond shall be conditioned such that the Bidder will pay the DISTRICT as liquidated damages the amount specified in the bond unless it enters into a Contract in accordance with its Bid and furnishes Performance and Payment Bonds as described below.

Within 15 days after the notification of the Award of the Contract, the successful bidder or bidders will be required to furnish Performance and Payment Bonds in an amount equal to one hundred percent (100%) of the Contract Price. Said bonds shall be secured from a Surety Company satisfactory to the DISTRICT.

Pursuant to Section 22300 of the Public Contract Code of the State of California, the Contract will contain provisions permitting the successful bidder to substitute securities for any moneys withheld by the District to ensure performance under the Contract.

Each Bid must conform to the requirements of the Contract Documents, all of which may be examined at the offices of the DISTRICT: 11570 Donner Pass Road, Truckee, California, 96161. Copies of the Contract Documents may be obtained in electronic format at no charge upon request.

The DISTRICT reserves the right to reject any and all bids, waive any irregularities or informalities in the bidding, be the sole judge of the suitability of the items offered, and to accept any bid that it determines to be in its best interest.

END OF SECTION 00030

SECTION 00100 – INSTRUCTIONS TO BIDDERS

1. NOTICE TO BIDDERS

Truckee Donner Public Utility District, hereinafter referred to as "DISTRICT," advises that sealed bids subject to the conditions contained herein, will be received at the DISTRICT office until 2:00 PM, Wednesday, August 19, 2026, at which time they shall be opened and publicly read for:

DONNER TRAILS TANK NO. 2 INTERIOR COATING REHABILITATION

2. BID FORM

Bidders shall use the bid forms bound in these documents as Bid Forms. Each Bid must include the following:

- All pages of the Bid Forms (Section 00300). Information listed on the Experience Statement in the Bid Forms shall include documentation that the Bidder meets all of the Contractor Qualification requirements indicated in Article 1.06.A of Section 13209D – Welded Steel Tank Rehabilitation
- Certification Regarding Debarment and Other Matters (Section 00350)
- Iran Contracting Act Certification (Section 00360)
- Public Works Contractor Registration Certification (Section 00370)
- An acceptable bid security. The form of Bid Bond provided in Section 00435 – Bid Bonds may be used, or the Bidder may use another form of bid security as described in Article 1.5 of this Section.

It is not necessary for the Bidder to submit the entire set of Contract Documents with its bid.

3. DEFINED TERMS

Terms used in the Section 00100 – Instructions To Bidders, Section 00500 – Agreement, Section 00800 – Special Provisions have the meanings assigned to them in Article 1.1 of Section 00800 – Special Provisions.

4. COMPLIANCE WITH CONTRACTOR'S LICENSE LAWS

- A. Pursuant to Section 7028.15 of the Business and Professions Code and Section 3300 of the Public Contract Code, Bidders must possess licenses issued by the State of California Contractors License Board for performance of this Contract. Subcontractors must possess the appropriate licenses for each specialty subcontracted.
- B. Joint venture Bidders must possess a joint venture license. Each party to a joint venture must be properly licensed for the work of this Project.
- C. The following conditions shall also apply:

1. No contractor or subcontractor may be listed on a Bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)]
2. No contractor or subcontractor may be awarded a contract for public work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5; and
3. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

5. BID SECURITY

Each Bid shall be accompanied by a certified or cashier's check payable to the order of the Truckee Donner Public Utility District, for a sum not less than 10% of the amount of the Bid, or accompanied by a Bid Bond on the form attached or other acceptable form in an amount not less than 10% of the amount of the Bid provided by a surety licensed to do business in the State of California and appearing on Treasury Department Circular 570, as amended, conditioned that the Bidder will pay the DISTRICT as liquidated damages the amount specified in the bond unless it enters into a contract in accordance with its Bid and furnishes the insurance certificate, and payment and performance bond herein mentioned, within fifteen (15) days from the date at which it is notified that it is the successful bidder.

6. EXAMINATION OF CONDITIONS

- A. Bidders shall satisfy themselves as to the conditions by personal examination of the Contract Documents and site to become familiar with local conditions that may affect cost, progress, performance or furnishing of the proposed improvements and by other examinations and investigations that they may wish to make as to the nature of the work and the difficulties encountered.
- B. Submitting of a Bid shall constitute affirmation by the Bidder that they have complied with the following:
 1. Carefully examined the Contract Documents.
 2. Visited the site of the Work.
 3. Included in the Bid sum amounts sufficient to cover all items required by the Contract Documents and any applicable permits.
- C. The failure or omission of any Bidder to receive or examine any form, instrument, addendum, or other documents or the site of the proposed Work shall in no way relieve any Bidder from any obligation with respect to its Bid or the Contract.

7. INTERPRETATION OR CORRECTION OF CONTRACT

- A. The Bidder shall promptly notify the DISTRICT of any ambiguity, inconsistency, or error which they may discover in the Contract, or, if applicable, the site or local conditions.
- B. If the Bidder requires clarification or interpretation of the Contract, they shall make a written request to reach the DISTRICT at least seven (7) days prior to the scheduled bid opening. Questions may be sent via email to neilkaufman@tdpud.org.
- C. Any interpretations, corrections, or changes to the Contract prior to the bid opening shall be made by addenda issued to all Bidders. Each Bidder shall acknowledge receipt of each addendum in the Bid Forms.
- D. Interpretations, corrections, or changes of the Contract prior to Bid opening made in any other manner than as described above will not be binding, and Bidders shall not rely upon such interpretations, corrections and changes.

8. PRE-BID CONFERENCE

- A. A pre-bid conference will be held at 10:00 a.m. on Thursday, August 6, 2026. The conference will be held at the District Office at 11570 Donner Pass Road, Truckee, California, 96161.
- B. Attendance at the pre-bid-conference is OPTIONAL. Representatives of the DISTRICT will be present to discuss the Project. In response to questions arising at the conference, the DISTRICT will issue Addenda as the DISTRICT considers necessary.
- C. A site tour will be included in the prebid conference. Bidders shall be responsible to furnish their own transportation and persons attending the conference and site tour shall comply with appropriate social distancing and personal protection requirements.
- D. The DISTRICT reserves the right to change the format of the pre-bid conference due to inclement weather. Such changes may include moving the pre-bid conference to an on-line platform such as Microsoft Teams or Zoom, and/or creating a self-guided tour where interested Bidders may tour the Project site on their own. Any modifications to the pre-bid conference format will be communicated as an Addendum.

9. LISTING OF SUBCONTRACTORS

- A. Bidders shall list, in the Subcontractor List of the Bid Forms, the name, the location of the place of business, the California contractor license number, and public works contractor registration number issued pursuant to Section 1725.5 of the Labor Code of, and the portion of the Work to be performed by, each Subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the work or improvement, or a subcontractor licensed by the State of California who, under subcontract to the prime contractor, specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the contract documents, in an amount in excess of one-half of 1 percent of the prime contractor's total bid or, in the case of bids or offers for the construction of streets or highways,

including bridges, in excess of one-half of 1 percent of the prime contractor's total bid or ten thousand dollars (\$10,000), whichever is greater.

- B. The attention of Bidder is directed to Public Contract Code §4100, et seq. (Subletting and Subcontracting Fair Practices Act), related to penalties for use of unauthorized Subcontractors or by making unauthorized substitutions.

10. BIDDER QUALIFICATIONS

- A. Bids will be received from qualified Bidders only. By submitting a Bid, Bidder warrants that it has:
 - 1. Adequate financial resources to accomplish Work required.
 - 2. Adequate equipment to accomplish Work required.
 - 3. Personnel with sufficient experience to accomplish Work required.
 - 4. Sufficient experience in the type of Work proposed.
 - 5. Not violated public works laws as set forth in Labor Code Section 1777.7 related to apprentice/journeyman ratio.
 - 6. The appropriate contractors' license for the Work to be performed (P.C.C. §3300), which the DISTRICT has determined to include: A-General Engineering.
 - 7. No pending claims regarding performance, failure to deliver, labor violations, etc.
 - 8. Ability to provide proof of Workers' Compensation, public liability and property damage insurance.

11. NONCOLLUSION AFFIDAVIT

In accordance with Public Contract Code Section 7106, Bidders are required to execute and submit the "Noncollusion Affidavit" included in the Bid Forms.

12. BID FORMS

- A. Bidders are furnished with Section 00300 - Bid Forms. The Bid Forms may contain a schedule of items requesting lump sum prices. It may also state estimated quantities of various kinds of Work to be performed, or materials to be provided, with a schedule of items for which unit prices are required.
- B. The unit prices or lump sum pricing must include full compensation for providing all labor, materials, services, tools, equipment and whatever else is required to perform all work in accordance with the requirements of the Contract Documents.
- C. All Bids must be submitted on the Bid Forms furnished by the DISTRICT, and the Bidder is solely responsible to diligently follow all directions required by the DISTRICT with respect to the completion and submission of the Bid Forms, including these Instructions and as required under the Bid Documents. A Bid not submitted on the

form furnished by the DISTRICT, or that does not comply with the DISTRICT's directions with respect to the completion and submission of the Bid Forms, may be considered non-responsive by the DISTRICT in its sole discretion. The DISTRICT reserves all rights to reject any or all Bids, and to waive any minor irregularity in the completion of the Bid Forms, within its sole discretion.

- D. The Bid Forms, and all other Bid Documents shall be executed in accordance with applicable Laws and Regulations, and as required under the Contract Documents, subject to the following:
 - 1. Numbers shall be stated both in writing and in figures where so required.
 - 2. In case of a difference in written words and figures, the amount stated in written words shall govern.
 - 3. The completed forms shall be without interlineations, alterations, or erasures.
 - 4. A correction to mistakes made by Bidder on figures or statements shall be validated with signed initials by the person or persons signing the Bid Forms.
 - 5. The Bid shall be executed by the person or persons legally authorized to bind the Bidder, as required in Bid Forms.
 - 6. As stated in Bid Forms, by signing the Bid Forms, Bidder represents that the statements made therein and elsewhere in the Bid Documents are true and correct and subject to penalty of perjury under California law.
- E. Bids by corporations must be executed in the corporate name by the president or a vice president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed by the secretary or an assistant secretary.
- F. Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature.
- G. The Bid shall contain an acknowledgement of receipt of all Addenda (the numbers of which must be filled in on the Bid Forms).

13. MANNER OF SUBMITTING BIDS

- A. Prior to submitting Bids, bidders must make sure that:
 - 1. The Bid is complete and signed.
 - 2. The Bid security in the proper amount is attached to the Bid package.
 - 3. The Bid schedule is complete and the totals are correct.
 - 4. The Bidder has acknowledged the receipt of any Addenda.
 - 5. The Bidder has familiarized itself with all applicable laws and regulations. It is the sole responsibility of the Bidder to ensure that its Bid is received at the proper

time and at the proper location. Bids received after the time fixed for receiving them will not be considered.

6. Late Bids will be returned by the DISTRICT to the Bidder unopened.
7. When submitting a bid, place the complete bid document in a sealed envelope, mark the envelope "Sealed Bid" and mail to Donner Trails Tank No. 2 Interior Coating Rehabilitation Bid, Attn: Contract Administrator, Truckee Donner PUD, 11570 Donner Pass Road, Truckee, CA 96161. Bid documents shall be submitted in hard copy. Bid packages submitted in electronic form shall not be acceptable.

- B. The Bidder certifies that in submitting its Bid it has taken into account all conduct which can be reasonably expected arising out of social distancing requirements and changes in the nature of construction means and methods including as arising out of the health and safety directives issued by all applicable governmental agencies and levels (Federal, State and local) due to the COVID-19 pandemic, and related matters. Bidder expressly represents that it has, to the best of its ability, taken all such factors, directives and requirements into account in formulating its Bid for the Work and has satisfied itself that all such costs are included in the total Bid price set forth in its Bid.

14. BID MODIFICATIONS

Bids may be modified up until the time of bid opening. Modifications must be in writing and may be sent in writing only must comply with the bid requirements. Modifications received via telephone, facsimile machine, or electronic mail will not be allowed.

15. BID WITHDRAWAL

Bids may be withdrawn any time prior to the time set for Bid opening only by written request of the Bidder. Withdrawal of a Bid does not prejudice the right of the Bidder to file a new Bid at any time prior to the time fixed for receiving Bids in this Instruction to Bidders. Once Bids are opened, Bids may only be withdrawn in strict accordance with the provisions of Public Contract Code Sections 5100 through 5107. All Bids shall be deemed a firm offer for not less than forty-five (45) days after the date of the Bid opening.

16. POSTPONEMENT OF OPENING

The DISTRICT reserves the right to postpone the time and date of bid opening as the DISTRICT deems necessary. Such postponement will be conveyed to all Bidders by written or facsimile notice which will state the new opening time and date.

17. BIDS TO REMAIN SUBJECT TO ACCEPTANCE

All Bids will remain subject to acceptance for forty-five (45) days after the day of the Bid Opening, which may be extended by agreement between the Bidder and the DISTRICT. The DISTRICT may, in its sole discretion, release any Bid and return the Bid Security prior to that date.

18. ENVIRONMENTAL PROVISIONS

It shall be the duty of the Bidder to familiarize itself with, and to comply with applicable environmental laws for the Work.

19. AWARD OF CONTRACT

- A. Bidders must bid all of the items on the Bid Schedule. The DISTRICT intends to award one contract for the construction described in the Bid Schedule. The lowest Bid will be determined by the DISTRICT based on the following procedure:
1. The lowest bid given in the "Total Amount of Bid (Base Bid + Bid Alternates)" given on Page 00300-2 of the Bid Forms shall be determined. If the lowest responsive, responsible bid amount does not exceed the DISTRICT's available funds, then the award shall be based upon that bid.
 2. If the lowest responsive, responsible bid in Article 19.A.1 exceeds the DISTRICT'S available funds, then the lowest bid given in the "Total Amount of Base Bid" given on Page 00300-2 of the Bid Forms shall be determined and the award shall be based upon that bid.
 3. The District reserves the right to delete the Additive Alternate at its sole discretion, based on the District's needs, availability of funds, and priorities existing at the time of the award
- B. The DISTRICT reserves the right to reject any and all Bids and to waive any and all irregularities. The DISTRICT reserves the right to reject any nonconforming, nonresponsive, incomplete, unbalanced or conditional Bids.
- C. In evaluating Bids, the DISTRICT will consider whether or not the Bids comply with the prescribed requirements, and include such Alternates, unit prices and other data, as may be required in the Bid Forms and supplements thereto. Further, the DISTRICT may reject any Bid, which, in its opinion, does not accurately reflect the cost to perform the Work. The DISTRICT may reject as non-responsive any Bid which unevenly weights or allocates costs, including but not limited to overhead and profit to one or more particular bid items.
- D. In the event that the product of a unit and an estimated quantity does not equal the extended amount quoted, the unit price shall govern, and the correct product of the unit price and the estimated quantity shall be deemed to be the amount bid. If the sum of two or more items in a bidding schedule does not equal the total amount quoted, the individual item amounts shall govern and the correct total shall be deemed to be the amount bid.
- E. All quantities stated on the Bid Schedule are estimates only. The DISTRICT in no way guarantees that the actual quantities for Work performed will be equal to or similar to the estimated quantities.
- F. The DISTRICT may accept any Alternate without regard to the order in which they are listed. The DISTRICT will determine the lowest Bidder on the basis of the Base Bid.

The DISTRICT reserves the right to add to the Basis of Bid any of the Alternates accepted in finalizing the contract.

- G. If the Contract is to be awarded, the DISTRICT shall issue a Notice to Award, and the Contract will be awarded to the lowest qualified, responsible and responsive Bidder that in the DISTRICT's judgment will be in the best interests of the Project.

20. INSURANCE

The DISTRICT's requirements for insurance are set forth in Section 00500 - Agreement. The Successful Bidder shall purchase insurance from an insurance company or companies who meet the requirements as set forth in the Contract Documents, including, without limitation, Section 00500 - Agreement.

The Successful Bidder shall procure all insurance required under the Contract Documents, and deliver all required insurance certificates to the DISTRICT and Engineer prior to beginning work. In no case will the Notice to Proceed be considered as allowing the Work to begin until the insurance certificates are received by the DISTRICT, even though the Contract Time as stated in the Notice to Proceed will commence to run.

21. SIGNING OF AGREEMENT

When the DISTRICT gives a Notice of Award to the Successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement with all other written Contract Documents attached. Within fifteen (15) days thereafter, the Successful Bidder shall sign and deliver the required number of counterparts of the Agreement together with the required Bonds to the DISTRICT. Within ten (10) days thereafter the DISTRICT will deliver one fully signed counterpart to the Successful Bidder.

22. RETAINAGE

The percentage of retainage that will be withheld from each Progress Payment is set forth in the Agreement. Pursuant to provisions of Section 22300 of the California Public Contract Code, the Bidder may substitute securities for any monies withheld by the DISTRICT to ensure performance of the Work.

23. CONTRACT

The Contract includes the Notice to Contractors, Instructions to Bidders, and Bidding Documents, Agreement, Performance and Payment Bond, Special Provisions, Technical Specifications, Change Orders, Field Orders, Drawings and Addenda and together they are the Contract Documents.

The Agreement, when executed, shall be deemed to include the entire agreement between the parties thereto, and the CONTRACTOR shall not claim any modification thereof resulting from any representation or promise made at any time by any officer, agent or employee of the DISTRICT or by any other person.

24. TIME OF COMPLETION

Pursuant to the provisions of Section 00500 – Agreement, the Work must be completed by July 30, 2027. It is anticipated that Board of Directors will award a contract at its September 2, 2026 meeting.

25. WAGE RATES

- A. Pursuant to provisions of the California Labor Code, the Director of Industrial Relations has ascertained the prevailing rate of per diem wages in the locality in which the work is to be performed, applicable to the work to be done. Copies of these wage determinations are on file with the DISTRICT.
- B. Bidders shall notify the DISTRICT promptly, in writing, of labor classifications not listed in the prevailing wage determination but necessary for the performance of the Work. When a labor classification not listed in the prevailing wage determination is necessary for the performance of the Work, the Bidder may be required to pay, for the classifications not listed, the rate applicable to the classification most closely related to that which is not listed.
- C. The Bidder shall pay not less than the prevailing rate of per diem wages determined by the Director of Industrial Relations, and the Bidder shall be responsible for its Subcontractors paying not less than said per diem wages. The Bidder may be subject to penalties for paying less than the prevailing wages pursuant to provisions of California Labor Code, Section 1775.

26. BID PROTEST PROCEDURE

- A. All disputes and/or protests regarding the bidding process shall be subject to the following procedures. In submitting a Bid to the DISTRICT, the Bidder agrees to comply with and to be bound by these procedures.
- B. Any Bid protest must be submitted in writing and received by the DISTRICT before 5:00 p.m. on the fifth (5th) working day following Bid opening ("Bid Protest Deadline").
- C. The initial protest document must contain a complete statement of the basis for the protest, and all supporting documentation.
- D. The party filing the protest must have actually submitted a Bid for the Work. A subcontractor of a party submitting a Bid for the work may not submit a Bid protest. A party may not rely on the Bid protest submitted by another Bidder but must timely pursue its own protest.
- E. The protest must refer to the specific portion of the Contract Document which forms the basis for the protest.
- F. The protest must include the name, address and telephone number of the person representing the protesting party.
- G. The party filing the protest must, by or before the Bid Protest Deadline, and concurrent with its delivery to the DISTRICT, transmit (via fax or e-mail) a copy of the initial

protest document and any attached documentation to all other parties with a direct financial interest which may be adversely affected by the outcome of the protest, including the protested Bidder. Such parties shall include, without limitation, all other Bidders who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest. Evidence that the protesting Bidder has complied with this requirement shall be provided at the time the Bid protest is submitted to the DISTRICT.

- H. The protested Bidder may submit a written response to the protest, provided the response is received by the DISTRICT before 5:00 p.m., within five (5) working days after the Bid Protest Deadline or after receipt of the bid protest, whichever is sooner (the "Response Deadline"). The response must include all supporting documentation, and any materials submitted after the Response Deadline will not be considered. The response must include the name, address and telephone number of the person representing the protested Bidder.
- I. The procedure and time limits set forth in this paragraph are mandatory and are the Bidder's sole and exclusive remedy in the event of Bid protest. The Bidder's failure to timely comply with these procedures shall constitute a waiver of any right to further pursue the Bid protest including filing a Government Code Claim or legal proceedings.

END OF SECTION 00100

SECTION 00300 – BID FORMS
DONNER TRAILS TANK NO. 2
INTERIOR COATING REHABILITATION

TO: TRUCKEE DONNER PUBLIC UTILITY DISTRICT
11570 Donner Pass Road
Truckee, California 96161

ENTER INTO CONTRACT

The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with the DISTRICT in the form included in the Contract Documents to perform and furnish all Work as specified or indicated in the Contract Documents for the Contract Price and within the Contract Time indicated in this Bid, and in accordance with the other terms and conditions of the Contract Documents.

The successful bidder will be the lowest responsible and responsive bidder based on the Base Bid plus ALL Bid Alternates.

NOTE: After the bidder is determined to be responsive and responsible, then, depending on the budget available, the DISTRICT may select any Bid Alternates. The Contractor will be responsible for meeting the bonding and insurance amount required for the total bid award amount including the Bid Alternates.

ACCEPTANCE OF TERMS AND CONDITIONS

Bidder accepts all of the terms and conditions of the Notice to Bidders and Instructions to Bidders, including without limitation those dealing with the disposition of Bid Security. This Bid will remain subject to acceptance for forty-five (45) after the day of Bid opening.

RECEIPT OF ADDENDA

The undersigned Bidder acknowledges receipt of the following Addenda:

No. 1:	_____	signed	_____	dated
No. 2:	_____	signed	_____	dated
No. 3:	_____	signed	_____	dated
No. 4:	_____	signed	_____	dated
No. 5:	_____	signed	_____	dated
No. 6:	_____	signed	_____	dated

DONNER TRAILS TANK NO. 2 INTERIOR COATING REHABILITATION

BASE BID SCHEDULE

BID ITEM	DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	SUBTOTAL
1	Mobilization	1	LS	_____	_____
2	Welding repairs	50	LF	_____	_____
3	Exterior coating repairs after welding repairs	50	SF	_____	_____
4	Interior recoating	1	LS	_____	_____
5	All Other Work Required by the Contract Documents	1	LS	_____	_____
Total Amount of Base Bid:				_____	_____

BID ALTERNATE SCHEDULE

BID ITEM	DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	SUBTOTAL
1A	Cathodic protection system	1	LS	_____	_____
Total Amount of Bid Alternates:				_____	_____

Total Amount of Bid (Base Bid + Bid Alternates): _____

CALIFORNIA CONTRACTOR'S LICENSE AND ENTITY INFORMATION

The terms used in this Bid are defined in the Section 00800 – Special Provisions and the Contract Documents and shall have the same meanings assigned to them. Bidder declares that it will possess a contractor's license of the required classification, valid in the appropriate jurisdiction at the time of contract award.

Contractor's license number(s): _____

License classification(s): _____

License expiration date(s): _____

SUBMITTED on _____, 20____.

Bidder must provide the following information if Bidder is:

An Individual/Sole Proprietorship:

Name (typed or printed): _____

By: _____ (SEAL)
(Individual's signature)

Doing business as: _____

Business Address: _____

Phone Number: () _____ FAX Number: () _____

Email Address of Authorized Representative: _____

A Partnership or LLC:

Partnership or LLC Name: _____ (SEAL)

By: _____
(Signature of general partner or member -- attach evidence of authority to sign)

Name (typed or printed): _____

Business address: _____

Phone Number: () _____ FAX Number: () _____

Email Address of Authorized Representative: _____

A Corporation:

Corporation Name: _____

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability): _____

By: _____
(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____ (CORPORATE SEAL)

Attest: _____
(Signature of Corporate Secretary)

Business address: _____

Date of Qualification to do business is _____

Phone Number: () _____ FAX Number: () _____

Email Address of Authorized Representative: _____

A Joint Venture:

Joint Venture Name: _____ (SEAL)

By: _____
(Signature of joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Business address: _____

Phone Number: () _____ FAX Number: () _____

Email Address of Authorized Representative: _____

Joint Venture Name: _____ (SEAL)

By: _____
(Signature of joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Business address: _____

Phone Number: () _____ FAX Number: () _____

Email Address of Authorized Representative: _____

Each joint venture must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.

BIDDER'S DECLARATION

I declare under penalty of perjury under the laws of the State of California that the statements and representations in this Bid Forms are accurate, true and correct.

Dated _____ at _____, California.

By: _____

Print Name: _____

Title: _____

By signing the Bidders Declaration, the Bidder warrants the following:

NONCOLLUSION DECLARATION
TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares: I am the _____ of,
_____ the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay any person or entity for such purpose. Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder. I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____ [date],
at _____ [city], _____ [state].

SUBCONTRACTOR LIST

(To be submitted with Bid)

Each Bidder shall set forth below with its Bid:

- A. In compliance with the provisions of Sections 4100 to 4114, inclusive, of the California Public Contract Code, and any amendments thereof, the undersigned Bidder lists the name, the location of the place of business, the California contractor's license number and public works contractor registration number issued pursuant to Section 1725.5 of the California Labor Code, and the portion of the Work to be performed by each Subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the work or improvement, or a Subcontractor licensed by the State of California who, under subcontract to the prime contractor, specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the contract documents, in an amount in excess of one-half of 1 percent of the prime contractor's total Bid. The Bidder shall only list one Subcontractor for each portion of the Work as is defined by the Bidder in its Bid.
- B. If the Bidder fails to specify a Subcontractor for any portion of the Work as above-stated, or if the Bidder lists more than one Subcontractor for the same portion of the Work, the Bidder agrees to perform that Work itself.
- C. Bidder understands that circumvention of the requirement to list Subcontractors by the device of listing one Subcontractor who will in turn sublet portions constituting the majority of the work is a violation of the Subletting and Subcontracting Fair Practices Act (Division 2, Part 1, Chapter 4, of the California Public Contract Code), and shall subject Bidder to the penalties set forth in said Act.

[NOTE: Reproduce page two of the Subcontractor List for additional listings needed beyond the length of this form.]

Subcontractor Name	Location of Subcontractor	
	License Number	
	DIR Registration Number	
	Portion of Work Activity (%)	

Subcontractor Name	Location of Subcontractor	
	License Number	
	DIR Registration Number	
	Portion of Work Activity (%)	
Subcontractor Name	Location of Subcontractor	
	License Number	
	DIR Registration Number	
	Portion of Work Activity (%)	
Subcontractor Name	Location of Subcontractor	
	License Number	
	DIR Registration Number	
	Portion of Work Activity (%)	
Subcontractor Name	Location of Subcontractor	
	License Number	
	DIR Registration Number	
	Portion of Work Activity (%)	

EXPERIENCE STATEMENT

Following is a list of the Bidder's qualifications and experience pursuant to the requirements of Section 00100 - Instructions to Bidders.

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

END OF SECTION 00300

SECTION 00310 - MEASUREMENT AND PAYMENT

PART 1 -- GENERAL

1.1 SCOPE

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

PART 2 – BID SCHEDULE ITEMS

2.1 MOBILIZATION (Bid Item No. 1)

- A. No measurement shall be made for this item. The CONTRACTOR will be compensated for all mobilization and job set-up costs based on the lump sum price provided in the Bid Schedule.
- B. The amount entered in the Bid Schedule for Mobilization shall not exceed five percent of the total amount of the Bid.

2.2 WELDING REPAIRS (Bid Item No. 2)

- A. Measurement of welding repairs shall be based on the actual centerline length (in linear feet) of corroded welds removed and replaced as determined by the DISTRICT. The CONTRACTOR shall be paid for welding repairs based on the unit prices shown in the Bid Schedule and on the DISTRICT'S count of the linear feet of weld installed.
- B. The price given by the CONTRACTOR shall include all labor, equipment and materials necessary to perform this Work, including removal and replacement of corroded welds as specified in Section 13209D, except those itemized separately.

2.3 EXTERIOR COATING AFTER WELDING REPAIRS (Bid Item No. 3)

- A. Measurement of exterior coating be based on the actual square footage of coatings applied as determined by the DISTRICT. The CONTRACTOR shall be paid for exterior coating based on the unit prices shown in the Bid Schedule and on the DISTRICT'S count of the square footage of coating applied.

- B. The CONTRACTOR shall perform exterior coating surface preparation and application in a competent and workman like manner. The CONTRACTOR shall not be entitled to compensation for excessive coating application beyond what is necessary due to coatings damaged by welding repairs performed under Bid Item No. 2.
- C. The price given by the CONTRACTOR shall include all labor, equipment and materials necessary to perform this Work, including surface preparation, coating application, temporary facilities and environmental controls.

2.4 INTERIOR RECOATING (Bid Item No. 4)

- A. No measurement shall be made for this item. The CONTRACTOR shall be compensated for all Work performed under this item based on the lump sum price provided in the Bid Schedule. The price given by the CONTRACTOR shall include all labor, equipment and materials necessary to perform this Work.
- B. Bid Item No. 4 shall include the following work at a minimum:
 - 1. Blasting and surface preparation of all interior surfaces
 - 2. Application of new interior coating system on all interior surfaces
 - 3. Temporary facilities
 - 4. Environmental controls
 - 5. Disinfection of the tank interior

2.5 FURNISH AND INSTALL ALL OTHER WORK REQUIRED BY THE CONTRACT DOCUMENTS (Bid Item No. 5)

- A. No measurement shall be made for this item. The CONTRACTOR will be compensated for all costs in this item based on the lump sum price provided in the Bid Schedule.
- B. The price given by the CONTRACTOR shall include all labor, equipment and materials necessary for all WORK in the Contract Documents not covered by the other Bid Items required for successful completion of the Project. Such WORK shall include, but is not limited to demobilization, and disposal of waste materials.

2.6 BID ALTERNATE - FURNISH AND INSTALL STEEL TANK CATHODIC PROTECTION SYSTEM (Bid Alternate Item No. 1A)

- A. No measurement shall be made for this item. If the Bid Alternate is awarded by the District, the CONTRACTOR will be compensated for all costs in this item based on the lump sum price provided in the Bid Schedule.
- A. The price given by the CONTRACTOR for Bid Item No.1A shall include all labor, equipment and materials necessary for installation of the welded steel tank cathodic protection system as specified in Specification Section 15305 – Galvanic Anode Cathodic Protection for Welded Steel Tank.

- END OF SECTION -

**SECTION 00350 – CERTIFICATION REGARDING DEBARMENT
SUSPENSION AND OTHER RESPONSIBILITY MATTERS**

(To be submitted with Bid)

The Bidder certifies to the best of its knowledge and belief that it, and its principals:

- (A) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- (B) Are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any State or local government entity;
- (C) Have not within a three year period preceding this Bid been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (D) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (1) or (2) of this certification; and
- (E) Have not within a three-year period preceding this application/Bid had one or more public transactions (Federal, State, or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this Bid or termination of the award.

Name of Bidder

Typed Name & Title of Authorized Representative

Signature of Authorized Representative

Date

I am unable to certify to the above statements. My explanation is attached.

☐

END OF SECTION 00350

SECTION 00360 - IRAN CONTRACTING ACT CERTIFICATION

(To be submitted with Bid)
(Public Contract Code Section 2200 et seq.)

As required by California Public Contract Code Section 2204, the Contractor certifies subject to penalty for perjury that the option checked below relating to the Contractor's status in regard to the Iran Contracting Act of 2010 (Public Contract Code Section 2200 et seq.) is true and correct:

☐

The Contractor is not:

- (A) Identified on the current list of persons and entities engaging in investment activities in Iran prepared by the California Department of General Services in accordance with subdivision (b) of Public Contract Code Section 2203; or
- (B) A financial institution that extends, for 45 days or more, credit in the amount of \$20,000,000 or more to any other person or entity identified on the current list of persons and entities engaging in investment activities in Iran prepared by the California Department of General Services in accordance with subdivision (b) of Public Contract Code Section 2203, if that person or entity uses or will use the credit to provide goods or services in the energy sector in Iran.

☐

The DISTRICT has exempted the Contractor from the requirements of the Iran Contracting Act of 2010 after making a public finding that, absent the exemption, the DISTRICT will be unable to obtain the goods and/or services to be provided pursuant to the Contract.

☐

The amount of the Contract payable to the Contractor for the Project does not exceed \$1,000,000.

Signed: _____

Titled: _____

Firm: _____

Date: _____

Note: In accordance with Public Contract Code Section 2205, false certification of this form shall be reported to the California Attorney General and may result in civil penalties equal to the greater of \$250,000 or twice the Contract amount, termination of the Contract and/or ineligibility to bid on contracts for three years.

END OF SECTION 00360

SECTION 00370 - PUBLIC WORKS CONTRACTOR REGISTRATION CERTIFICATION
(To be submitted with Bid)

Pursuant to Labor Code sections 1725.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a contract to perform public work must be registered with the Department of Industrial Relations. See <http://www.dir.ca.gov/Public-Works/PublicWorks.html> for additional information.

No bid will be accepted nor any contract entered into without proof of the contractor's and subcontractors' current registration with the Department of Industrial Relations to perform public work.

Bidder hereby certifies that it is aware of the registration requirements set forth in Labor Code sections 1725.5 and 1771.1 and is currently registered as a contractor with the Department of Industrial Relations.

Name of Bidder: _____

DIR Registration Number: _____

Bidder further acknowledges:

- (A) Bidder shall maintain a current DIR registration for the duration of the project.
- (B) Bidder shall include the requirements of Labor Code sections 1725.5 and 1771.1 in its contract with subcontractors and ensure that all subcontractors are registered at the time of bid opening and maintain registration status for the duration of the project.
- (C) Failure to submit this form or comply with any of the above requirements may result in a finding that the bid is non-responsive.

Signature: _____

Name of Bidder: _____

Name: _____

Title: _____

Dated: _____

END OF SECTION 00370

SECTION 00435 – BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned _____

as Principal, and _____
as Surety, are hereby held and firmly bound unto _____

_____ as OWNER in the penal sum of _____

for payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed, this _____ day of _____ 2026.

The Condition of the above obligation is such that whereas the Principal has submitted to

_____ a certain BID, attached hereto and hereby made a part hereof to enter into a contract in writing, for the _____

NOW, THEREFORE;

- (A) If said BID shall be rejected, or
- (B) If said BID shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attachment hereto (properly completed in accordance with said BID) and shall furnish a BOND for faithful performance of said Contract and for the payment of all persons performing labor and/or furnishing materials in connection therewith, and shall in all other respects perform the Agreement created by the acceptance of said BID, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of the time within which the DISTRICT may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

Principal

Surety

By:

*IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

END OF SECTION 00435

SECTION 00500 – AGREEMENT

DONNER TRAILS TANK NO. 2 INTERIOR COATING REHABILITATION

This Agreement ("Agreement") is entered into as of the ____ day of _____, 2026, by and between the Truckee Donner Public Utility District, a local public agency of the State of California (the "DISTRICT") and _____ ("CONTRACTOR").

The parties hereto agree as follows:

1. WORK

The CONTRACTOR agrees, for the consideration and under the terms and conditions set forth in this Agreement and the Contract Documents, to furnish and transport all necessary labor, services, materials, tools, equipment, implements, and appliances and any and all other expenses necessary or incidental to the performance of the Work within the Contract Time required to perform and completely finish in a workmanlike manner to the satisfaction and approval of the DISTRICT, free of any and all liens and claims of laborers, materialmen, suppliers, and subcontractors, and in conformity in all respects with all applicable federal, state, county and town ordinances, rules, and regulations, the public work of improvement, hereafter referred to as the "DONNER TRAILS TANK NO. 2 INTERIOR COATING REHABILITATION," consisting of rehabilitation of the interior coating system, installation of a galvanic anode cathodic protection system and related work hereafter referred to as the "Work" or the "Project", which is more fully described in the Contract Documents.

2. CONTRACT DOCUMENTS

A. The Contract Documents include the following:

1. Notice to Bidders (Section 00030);
2. Instructions to Bidders (Section 00100);
3. Bid Forms (Section 00300);
4. Noncollusion Affidavit (Section 00300);
5. Subcontractor List (Section 00300);
6. Experience Statement (Section 00300);
7. Measurement and Payment (Section 00310);
8. Certification Regarding Debarment, Suspension and Other Responsibility Matters (Section 00350);
9. Iran Contracting Certification (Section 00360);

10. Public Works Contractor Registration Certification (Section 00370);
11. Bid Bond (Section 00435);
12. Agreement (Section 00500);
13. Performance Bond (Section 00600);
14. Payment Bond (Section 00610);
15. Special Provisions (Section 00800);
16. Addenda numbers ____ through ____, inclusive;
17. Specifications;
18. Appendices:
19. Drawings;
20. Notice to Proceed; and
21. Executed Change Orders, if any, which may be effective after the date of this Agreement.

B. The CONTRACTOR shall keep on the Site a copy of the Contract Documents and shall at all times give the DISTRICT access thereto. The Contract Documents constitute the entire Agreement between the DISTRICT and the CONTRACTOR for the Work, and supersede all prior agreements, written or oral. It is the intent of the Contract Documents to include everything necessary for the proper execution of the Work as a complete functioning facility that serves the intended purpose. The CONTRACTOR shall provide all labor, material, equipment, and services required by the Contract Documents, or that may reasonably be inferred from the Contract Documents, as being required to perform the Work and produce the intended result. Words and abbreviations which have well known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings.

C. Whenever two or more standards or requirements appear in the Contract Documents, the highest standard, quality or requirement shall be applied and followed in the performance of the Agreement. In the case of conflict between terms of the Contract Documents, the following order of precedence shall apply:

1. In cases of discrepancy concerning dimension, quantity and location, the Drawings shall take precedence over the Specifications. Explanatory notes on the Drawings shall take precedence over conflicting drawn indications. Large-scale details shall take precedence over smaller scale details and figured dimensions shall take precedence over scaled measurement. Where figures are not shown, scale measurements shall be followed but shall in all cases be verified by measuring actual conditions of Work already in place. In cases of

discrepancy concerning application of materials and non-technical requirements over materials, the Specifications shall take precedence over the Drawings.

2. For all other conflicts between portions or terms of the Contract Documents that cannot be resolved as set forth above, the following order of precedence shall apply:
 - a. Agreement;
 - b. General Conditions;
 - c. Specifications; and
 - d. Drawings.

3. CONTRACT PRICE

The DISTRICT shall pay to the CONTRACTOR as full compensation for the performance of the Agreement, subject to any additions or deductions as provide din the Contract Documents, and including all applicable taxes and costs, the sum of:

_____ Dollars (\$_____),
hereinafter referred to as the Contract Price.

4. CONTRACT TIME

Time is of the essence in the performance of the Work. The CONTRACTOR agrees to commence work within TEN (10) calendar days of the date stated in the DISTRICT's Notice to Proceed, unless other arrangements are made with the DISTRICT in writing, and agrees to carry out the Project at all times with the greatest possible dispatch and to complete the entire Project under this Agreement, as may be amended, no later than July 30, 2027, ("Contract Time"). The CONTRACTOR is referred to Section 00800 - Special Provisions for intermediate milestones. By its signature hereunder, CONTRACTOR agrees that the Contract Time, including with respect to the intermediate milestones set forth in the Special Provisions, is adequate and reasonable to complete the Work, however the time for completion may be extended by written agreement of the DISTRICT due to extraordinary weather conditions.

5. LABOR

A. In addition to any other requirements concerning labor pursuant to the Contract Documents and applicable California and federal law, the CONTRACTOR declares the Work will be conducted pursuant to the following requirements:

1. **Wage Scale.** CONTRACTOR and its subcontractors shall pay not less than the prevailing rate of wages in accordance with the Labor Code, which rates have been determined by the Director of the California Department of Industrial Relations and shall be made available through the DISTRICT, and a copy of which is also included with the Contract Documents, the provisions of which are hereby specified as the rate of prevailing wage to be paid workers on this Project, and the provisions of Labor Code Sections 1720 et seq. and 1770 et seq., as well

as California Code of Regulations, Title 8, Section 16000 et seq. shall be complied with. The CONTRACTOR and each subcontractor shall forfeit as a penalty to the DISTRICT not more than two hundred dollars (\$200) for each calendar day, or portion thereof, for each worker paid less than the stipulated prevailing wage rate for any work done by him or her, or by any subcontract under him or her, in violation of the provisions of the Labor Code. The difference between such stipulated prevailing wage rate and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the stipulated prevailing wage rate shall be paid to each worker by the CONTRACTOR. CONTRACTOR shall post, at appropriate conspicuous points on the Project site, a schedule showing all determined general prevailing wage rates and all authorized deductions, if any, from unpaid wages actually earned.

2. **Payroll Records.** Pursuant to Labor Code Section 1776, the CONTRACTOR and each subcontractor shall maintain weekly certified payroll records showing the name, address, social security number, work classification, straight time and overtime hours paid 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. CONTRACTOR shall certify under penalty of perjury that records maintained and submitted by CONTRACTOR are true and accurate. CONTRACTOR shall also require subcontractor(s) to certify weekly payroll records under penalty of perjury. In accordance with Labor Code section 1771.4, the CONTRACTOR and each subcontractor shall furnish the certified payroll records directly to the Department of Industrial Relations ("DIR") on a weekly basis and in the format prescribed by the DIR, which may include electronic submission. CONTRACTOR shall comply with all requirements and regulations from the DIR relating to labor compliance monitoring and enforcement. The certified payroll records shall be on forms provided by the Division of Labor Standards Enforcement ("DLSE") of the DIR or shall contain the same information as the forms provided by the DLSE. Any copy of records made available for inspection and furnished upon request to the public shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address, and social security number. The name and address of the CONTRACTOR or any subcontractor shall not be marked or obliterated.
3. In the event of noncompliance with the requirements pertaining to the preparation and submission of certified payroll records, the CONTRACTOR shall have ten (10) days in which to comply subsequent to receipt of written notice specifying any item or actions necessary to ensure compliance with this section. Should noncompliance still be evident after such ten (10) day period, the CONTRACTOR shall forfeit one hundred dollars (\$100.00) for each day, or portion thereof, for each worker until strict compliance is effectuated. Upon the request of the DIR, such penalties shall be withheld from contract payments.
4. **Hours of Labor.** Eight-hour labor constitutes a legal day's work.
5. **Apprentices.** In accordance with the provisions of Section 1777.5, 1777.6 and 1777.7 of the Labor Code, and in accordance with the regulations of the California Apprenticeship Council, properly registered, apprentices may be employed in the prosecution of the Work. Information relative to number of apprentices, identifications, wages, hours of employment and standards of

working conditions shall be obtained from the Director of the Department of Industrial Relations, who is the Administrative Officer of the California Apprenticeship Council.

- B. **Prohibited Employment Discrimination.** Attention is directed to Section 1735 of the California Labor Code, which reads as follows: "No discrimination shall be made in the employment of persons upon public works because of the race, religious creed, color, national origin, ancestry, physical handicap, mental condition, marital status, or sex of such persons, except as provided in Section 12940 of the Government Code, and every contractor for public works violating this section is subject to all the penalties imposed for a violation of this chapter."
- C. The CONTRACTOR shall comply strictly with all applicable federal, state, and local requirements relating to the establishment of non-discriminatory practices in hiring and employment. During the performance of this Agreement, the CONTRACTOR and its subcontractors shall not deny the Agreement's benefits to any person on the basis of race, religion, color, ethnic group identification, national origin, ancestry, sex, age, physical or mental disability, medical condition, marital status, or sexual orientation, nor shall they discriminate unlawfully against any employee or applicant for employment because of race, religion, color, ethnic group identification, national origin, ancestry, sex, age, physical handicap, mental disability, medical condition, marital status, or sexual orientation. The CONTRACTOR shall ensure that the evaluation and treatment of employees and applicants for employment are free of such discrimination.
- D. The CONTRACTOR and its Subcontractors shall comply with the provisions of the Civil Rights Act of 1964 (42 United States Code, Section 1983), Executive Orders 11246, 11375 and 11478, the Fair Employment and Housing Act (California Government Code, Section 12900 et seq.), the regulations promulgated thereunder (California Code of Regulations, Title 2, Section 7285.0 et seq.), and the provisions of Article 9.5, Chapter 1, Part 1, Division 3, Title 2 of the Government Code (California Government Code, Sections 11135-11139.5).
- E. The CONTRACTOR and its Subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.
- F. The CONTRACTOR shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under the Agreement.
- G. **Workers' Compensation Insurance.** In accordance with the provisions of Article 5, Chapter 1, Part 7, Division 2 (commencing with Section 1860) and Chapter 4, Part 1, Division 4 (commencing with Section 3700) of the California Labor Code, the CONTRACTOR is required to secure the payment of compensation to his employees and shall for that purpose obtain and keep in effect adequate Workers' Compensation Insurance. The undersigned CONTRACTOR is aware of the provisions of Section 3700 of the Labor Code, which requires every employer to be insured against liability for Workers' Compensation claims or to undertake self-insurance in accordance with the provisions of that Code, and will comply with such provisions before commencing the performance of the Work in this Agreement.

- H. **Security for Compensation.** The CONTRACTOR hereby agrees that the provisions of Section 1775 of the California Labor Code will be complied with. The CONTRACTOR further agrees to secure the payment of compensation to its employees in accordance with the provisions of Section 3700 of the California Labor Code.

6. INDEMNITY

- A. To the fullest extent permitted by law, the CONTRACTOR shall indemnify, defend (with independent counsel approved by the DISTRICT) and hold harmless the DISTRICT, and its directors, officers, employees, agents, representatives, and volunteers (the "Indemnified Parties"), from and against any and all liabilities (including without limitation all claims, losses, damages, penalties, fines, and judgments, associated investigation and administrative expenses, and defense costs, including but not limited to reasonable attorneys' fees, court costs and costs of alternative dispute resolution), in law and in equity, of every kind, nature or type that arise out of, pertain to, or relate to the performance of the Work, the CONTRACTOR's operations to be performed under the Contract Documents, the negligence, reckless, or willful misconduct of the CONTRACTOR or the acts or omissions of any employee, agent or subcontractor of the CONTRACTOR regardless of whether or not caused in whole or in part by a party indemnified hereunder (collectively "Claims" for purposes of this section); excepting therefrom only such Claims arising from the sole or active negligence or willful misconduct of the Indemnified Parties or defects in design furnished by those persons. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this paragraph. The provisions of this paragraph shall survive completion of the Work and/or the termination of this Contract. The provisions of this paragraph are not limited by the provisions of the Contract Documents relating to insurance. The CONTRACTOR's indemnification obligations shall apply to all damages or claims for damages suffered as a result of or by the CONTRACTOR's performance or operations regardless if any insurance is applicable or not.
- B. It is intended that this section shall comply with California Civil Code §§ 2782, et seq., to the extent applicable to the CONTRACTOR's obligations as set forth in this Section. If it is determined by a Court of competent jurisdiction that any aspect of this Section exceeds the restrictions or limitations under California law applicable to indemnity obligations, only that portion which exceeds the restrictions or limitations under California law shall be null and void, and all remaining indemnity obligations shall be fully enforceable to the fullest extent allowed under California law.
- C. In any and all Claims against the Indemnified Parties by any employee of the CONTRACTOR, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this paragraph shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or any subcontractor under Workers' or Workmen's Compensation Acts, disability benefit acts or other employee benefit acts.
- D. The CONTRACTOR's liability to the Indemnified Parties under this Section shall not be limited by any legal limitation on the amount or type of damages, compensation or

benefits payable under workers' compensation acts, disability benefit acts or other employee benefit acts.

- E. The CONTRACTOR's liability insurance shall provide coverage for the CONTRACTOR's defense and indemnification obligations.

7. INSURANCE

The CONTRACTOR shall, at its sole cost, obtain and maintain, in force and effect for the duration of the Agreement, including the Warranty period, insurance that shall protect the CONTRACTOR and its Subcontractors and suppliers, and the DISTRICT against claims for injuries or death to persons or damages to property which may arise from or in connection with the performance of the Work hereunder by the CONTRACTOR, its agents, representative, employees or subcontractors and suppliers, and the following specific types of insurance coverages with limits not less than those set forth below, in a company or companies with a Best's rating of no less than A:VII and admitted to issue insurance in the State of California. Except for Builder's Risk Insurance as provided in this Section or as otherwise may be waived by the DISTRICT, in writing, in its sole discretion, the CONTRACTOR shall require compliance with all other Insurance Requirements as provided in this Section by its lower tier subcontractors.

- A. Workers' Compensation Insurance, including occupational illness or disease coverage, in accordance with the laws of the nation, state, territory or province having jurisdiction over the CONTRACTOR's employees and Employer's Liability Insurance with limits the greater of the statutory requirements, or \$1,000,000 per accident and, for bodily injury by disease, \$1,000,000 per employee. Coverage shall include all work covered under the U.S. Longshoreman's and Harbor Workers' Compensation Act and Jones Act in the event that they are applicable to the Work, or any aspect of the Work. The CONTRACTOR shall not utilize occupational accident or health insurance policies, or the equivalent, in lieu of mandatory Workers' Compensation insurance, or otherwise attempt to opt out of the statutory Workers' Compensation system. This insurance shall contain a waiver of subrogation (also known as "Transfer of Rights of Recovery Against Others to Us") against the DISTRICT and its Board members, officers, employees, agents and consultants. The obligations of CONTRACTOR, or its Subcontractors, under this provision shall apply regardless of whether or not the DISTRICT has received a waiver of subrogation from the insurer.
- B. Commercial General Liability Insurance (Occurrence Form) at least as broad as ISO Form CG 00 01 12 04, or DISTRICT approved equivalent, with a full defense and indemnity, which shall include, and be subject to, the following:
1. A minimum combined single limit of liability of \$2,000,000 or the limits required by law, whichever is greater for each occurrence for bodily injury and property damage;
 2. A minimum limit of liability of \$1,000,000 each person for personal and advertising injury liability;
 3. A minimum limit of liability of \$1,000,000 each occurrence for products/completed operations liability. The products/completed operations liability shall be

maintained in full force and effect for not less than 10 years following completion of any of the CONTRACTOR's work;

4. A general aggregate limit of not less than \$2,000,000, which shall be provided on a per project basis by means of ISO Form CG 25 03 11 85 or DISTRICT approved equivalent;
 5. XCU coverage for claims arising from explosion, collapse and underground damage;
 6. Contractor Pollution Liability Insurance coverage by the CONTRACTOR for all Work with a minimum limit of liability of not less than \$2,000,000 per occurrence, and \$10,000,000 policy aggregate;
 7. Contractual liability coverage for all oral and written contracts including the indemnity provisions contained herein;
 8. Deductibles shall not exceed \$25,000 per occurrence and shall be the sole responsibility of the CONTRACTOR;
 9. Cross Liability, Separation of Insureds endorsement, or coverage for Severability of Interest shall be included;
 10. Claims made policies are not acceptable;
 11. Coverage for Work performed on or within 50 feet of a railroad, by deletion of any limitation or exclusion of coverage on or within 50 feet of a railroad or by a Railroad Protective Liability policy which complies with this Section; and
 12. An endorsement that names the DISTRICT and its directors, officers, employees, agents and consultants as additional insureds. Such endorsement shall be made upon an ISO Endorsement CG 20 10 11 85 or approved equivalent (CG 20 10 04 13 is not equivalent or acceptable), Additional Insured - DISTRICT, Lessees or CONTRACTOR (Form B) and shall state "insurance is primary and all other insurance shall be noncontributory" and shall waive all rights of subrogation against the additional insureds. Any insurance, or self-insurance, maintained by the DISTRICT, its directors, officers, employees, and authorized volunteers shall be in excess of the CONTRACTOR's insurance and shall not contribute with it.
- C. Automobile Liability Insurance (Business Auto Coverage, Form CA 00 01) covering use of all owned, non-owned and hired automobiles (Symbol 1) with a minimum combined single limit of liability for bodily injury and property damage of at least \$1,000,000 per occurrence, and shall include, and be subject to, the following:
1. An endorsement that names the DISTRICT and its directors, officers, employees, agents and consultants as additional insureds, states such "insurance is primary and all other insurance shall be noncontributory", and waives all rights of subrogation against the additional insureds. Any insurance, or self-insurance, maintained by the DISTRICT, its directors, officers, employees, and authorized volunteers shall be in excess of the CONTRACTOR's insurance and shall not contribute with it.;

2. (2) Cross Liability, Separation of Insureds endorsement, or coverage for Severability of Interest;
- D. Builder's Risk (Course of Construction) coverage shall be provided by the CONTRACTOR utilizing an "All Risk" (Special Perils) coverage form (and shall include an installation floater (for materials and equipment)) with minimum limits of liability in the amount of the initial Contract Price as well as subsequent modifications thereto for the entire Work at the site on a replacement cost basis without voluntary deductibles. Until the completion and final acceptance by the DISTRICT of all the Work under and implied by the Contract, the Work shall be under the CONTRACTOR's sole responsible care and charge. The CONTRACTOR shall rebuild, repair, restore and make good all injuries, damages, re-erections, and repairs occasioned or rendered necessary by causes of any nature whatsoever. The making of progress payments to the CONTRACTOR shall not be construed as creating an insurable interest by or for the DISTRICT or be construed as relieving the CONTRACTOR or its subcontractors of responsibility for loss from any direct physical loss, damage or destruction occurring prior to final acceptance of the work by the DISTRICT. The coverage required under this Article shall also include and be subject to the following:
1. The interests of the DISTRICT, the CONTRACTOR, and each of their directors, officers, employees and authorized volunteers, officials, agents, consultants, and all tiers of subcontractors, all of whom shall be listed as insureds, or additional insureds as appropriate, and the policy shall, by endorsement, waive all rights of subrogation against the insureds and additional insureds and the endorsement shall state: "Subrogation: This insurance shall not be invalidated should the named Insured waive in writing prior to a loss, any right of recovery against any person for loss occurring to the property described.";
 2. Coverage for the Completed Value. If the DISTRICT is damaged by the failure of the CONTRACTOR to maintain such insurance, the CONTRACTOR shall bear all reasonable costs properly attributable thereto;
 3. Coverage against the perils of fire and extended coverage and all physical loss or damage including, without limitation or duplication of coverage: (i) lightning, windstorm, hail, smoke, explosion, riot, riot attending a strike, civil commotion, aircraft and vehicles; (ii) theft, vandalism, malicious mischief, and water damage; (iii) collapse, flood including tidal waves or overflow from bodies of water, landslide, water pressure or earth movement and earthquake; (iv) removal of debris resulting from an insured loss and demolition occasioned by enforcement of any applicable legal requirements; (v) falsework, temporary buildings and safety devices used by the CONTRACTOR to perform the Work; (vi) portions of the Work stored on and off the site and in transit when such portions of the Work are included in an Application for Payment (including Inland Marine coverage and Installation and Equipment Floater coverage as applicable); (vii) compensation for the services of the design engineer required as a result of the insured loss. (viii) flood and tidal wave insurance coverage shall be for the maximum percentage of the Contract Price permitted by law.
 4. Remaining in full force and effect until the Final Payment has been made to the CONTRACTOR. The property insurance policy shall be endorsed to allow for

partial use or occupancy by the DISTRICT without permitting a cancellation or lapse of insurance coverage;

5. Deductibles shall not exceed \$25,000 per occurrence with a deductible aggregate of \$25,000. The CONTRACTOR shall pay for deductible losses at no cost to any other insured or additional insured. Deductibles and any self-insured retentions shall be declared to and approved by the DISTRICT. The policy language shall provide, or be endorsed to provide, that the self-insured retention may be satisfied by either the named insured or the DISTRICT; and
6. Unless the DISTRICT directs otherwise, a loss insured under the Builder's Risk insurance shall be adjusted with the CONTRACTOR and made payable to the CONTRACTOR as fiduciary for the insured and additional insureds. The CONTRACTOR shall deposit the insurance proceeds in a separate account and shall distribute payment to the appropriate parties in proportion to their cost for repairing or replacing the damaged Work. The CONTRACTOR shall provide a complete audited accounting of the distribution of insurance proceeds to the DISTRICT and all other parties of interest.

E. Certificates of Insurance and Endorsements

1. Prior to performing any Work, the CONTRACTOR and its subcontractors shall file with the DISTRICT, Certificates of Insurance in a form satisfactory to the DISTRICT (ACCORD form) along with a copy of all endorsements as required in this Section. All certificates and endorsements are to be received and approved by the DISTRICT before work commences. However, failure to obtain the required documents prior to the Work beginning shall not waive the CONTRACTOR's obligation to provide them. The DISTRICT reserves the right to require complete, certified copies of all required insurance policies, including policy declaration pages and endorsement pages, required by these specifications, at any time. Failure to continually satisfy the insurance requirements of the Agreement is a material breach of contract.
2. The certificates shall name each additional insured required by this Agreement, shall state "insurance is primary and all other insurance shall be noncontributory", shall waive all rights of subrogation against the additional insureds; and shall also contain a provision that the DISTRICT shall be notified in writing 30 days before the policies may be canceled or allowed to expire or any reduction in coverage. An additional certificate shall be submitted with the final Application for Payment showing required continuation of coverage beyond the Final and Payment. If CONTRACTOR maintains broader coverage and or/higher limits than the minimums required in the Contract Documents, the DISTRICT requires and shall be entitled to the broader coverage and/or higher limits maintained by the CONTRACTOR. Any available insurance proceeds in excess of the specified minimum of insurance and coverage shall be available to the DISTRICT.

8. PERFORMANCE AND PAYMENT BONDS

- A. The CONTRACTOR shall furnish Performance and Payment Bonds, each in an amount equal to the Contract Price as security for the faithful performance and payment of the CONTRACTOR's obligations under the Contract Documents. The

Payment Bond shall remain in full force and effect throughout the entire performance of the Work, and within the timelines established under California law to allow a Claimant to assert a claim against the Payment Bond. The Performance Bond shall remain in full force and effect for a period until final completion and final acceptance of all work, or until the expiration of all Warranties as required by the Contract Documents, whichever period may be later. All Bonds shall be in the forms prescribed by law and by the Contract Documents and be executed by Sureties named in the current list of "Certified Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds or Certified Reinsurer Companies Holding Certificates Of Authority As Acceptable Reinsuring Companies" published in Circular 570 (most recent amendment) by the Audit Staff Bureau of Accounts, U.S. Treasury Department(www.fms.treas.gov/c570/index.html) and is admitted to issue bonds in the states in which the Project is located and all Work is performed. If the Surety is declared bankrupt or becomes insolvent or its right to do business is terminated by the state where the Work is located or if it ceases to meet the foregoing listing requirement, the CONTRACTOR shall provide another Bond acceptable to the DISTRICT meeting the stated requirements. All Bonds signed by an agent must be accompanied by a certified copy of the agent's authority to act.

- B. Sureties shall specifically waive all rights of notice of and consent to any and all changes, extensions of time, or modifications, deletions, alterations or additions to the terms of the Contract. The CONTRACTOR shall be solely responsible for notifying Sureties of all events that may affect them, and unless the Contract Documents provide otherwise, the DISTRICT bears no obligation to provide any such notification to Surety.

9. WARRANTY

- A. CONTRACTOR warrants that all labor, materials and equipment furnished under the Contract Documents shall be warranted one year. The CONTRACTOR warrants that all materials and equipment is new unless otherwise specified in the Contract Documents; and that all Work conforms to the Contract Document requirements and is free of any defect whether performed by the CONTRACTOR or any subcontractor or supplier.
 - 1. Unless otherwise stated in the Contract Documents, all warranty periods shall begin upon the filing of the Notice of Completion.
 - 2. The CONTRACTOR shall remedy and correct, at its own expense, any damage to real or personal property caused by its work, or that of any subcontractor or supplier.
 - 3. The CONTRACTOR shall furnish the DISTRICT with all warranty documents required pursuant to the Contract Documents as directed by the DISTRICT, and prior to Substantial Completion of the Project.
 - 4. The DISTRICT shall notify the CONTRACTOR, in writing, within a reasonable time after the discovery of any failure, defect, or damage. CONTRACTOR shall within seven (7) calendar days after being notified commence and perform with due diligence all necessary Work to complete or correct the Work at issue. If the CONTRACTOR fails to promptly remedy any defect, or damage, the DISTRICT

may, in its sole discretion, exercise its right to replace, repair, or otherwise remedy the defect, or damage at the CONTRACTOR's expense. However, in the event of any emergency constituting an immediate hazard to health, safety, property, or licensees, when caused by Work of the CONTRACTOR not in accordance with the Contract Documents, the DISTRICT may undertake and the CONTRACTOR and his surety shall be liable to the DISTRICT for the cost thereof expense, and without prior notice, all actions necessary to correct such condition.

5. With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for Work performed and Materials furnished under the Contract Documents, the CONTRACTOR shall:
 - a. Obtain for the benefit of the DISTRICT all warranties that would be given in normal commercial practice and/or that are required pursuant to the Contract Documents;
 - b. Require all warranties to be executed, in writing, for the benefit of the DISTRICT; and
 - c. Enforce all warranties for the benefit of the DISTRICT, unless otherwise directed in writing by DISTRICT.
6. The warranty provisions under this Agreement shall in no way limit the DISTRICT's rights under the Contract Documents or otherwise under California law, including without limitation, with respect to patent or latent defects, gross negligence, or fraud. The DISTRICT specifically reserves all rights related to defective work, including but not limited to the defect claims pursuant to California Code of Civil Procedure Sections 337.1 or 337.15.
7. **Storage of Materials, Products, and Equipment.** CONTRACTOR shall provide proper storage facilities and exercise such measures, as may be reasonably required by the DISTRICT upon review of CONTRACTOR's storage measures, to ensure the preservation of the specified quality and fitness of materials, products and equipment to be used in the Work. Stored materials, products and equipment shall be located so as to provide reasonable access for observation by the DISTRICT. In case of suspension of the Work, CONTRACTOR shall store and protect materials and equipment as necessary to maintain the quality, integrity, and availability when performance of the Work is resumed. See Section 001600 for additional details.

10. CHANGES IN THE WORK

- A. **Changes.** No modification, amendment, deviation, or change concerning the Contract Documents will be permitted by the CONTRACTOR without prior written consent of the DISTRICT. However, the DISTRICT, without invalidating the Agreement and with or without notification to the CONTRACTOR's sureties, may order changes in the Work or make changes by altering, adding to, or deducting from the Work, or changes to the Contract Documents to provide for additions, deletions, and revisions or to modify terms and conditions, including changes to the Work, the Contract Price, and/or the Contract Time. Modifications, amendments, deviations, or changes to the Contract

Documents may only be authorized by a written Change Order or Work Directive Change.

- B. The CONTRACTOR expressly agrees that it shall not consider any order, instruction, Clarification, Response to a Request for Information or any other communication either written or oral given intentionally or unintentionally by the DISTRICT or any other person as authorization or direction to do work that would cause a change in Contract Time or Contract Price unless it is a Change Order or Work Directive Change signed by the DISTRICT.
- C. **Requests for Quotation.** If a change involving Contract Price or Contract Time is being considered, the DISTRICT will issue a Request for Quotation describing the proposed change. The CONTRACTOR shall submit a quotation within ten (10) days of receipt of a Request for Quotation, or sooner if requested by the DISTRICT so as not to delay or interfere with the progress of the Work, and in accordance with the requirements for determining the cost of changes described in this Article.
- D. **Change Orders.** If the DISTRICT and the CONTRACTOR agree on the change in Contract Price and Contract Time for a proposed change, a Change Order will be issued and signed by the CONTRACTOR and the DISTRICT. An executed Change Order shall be conclusive and constitute a final settlement of the change in Contract Time and Contract Price for the work covered by the Change Order, including, without limitation, the effect of the change on all other portions of the Work completed or not and shall include compensation for all related claims for disruption, impact, delay or extended overhead, if any, that may result from the change. Unless expressly reserved by the CONTRACTOR and agreed to by the DISTRICT, an executed Change Order shall also constitute a waiver by the CONTRACTOR (and its Subcontractors and suppliers, of every tier) of any Claims or potential Claims arising from or concerning all matters relating to the change in the Work which is the subject of the Change Order, including, but not limited to, all direct and indirect costs associated with such change, any adjustments to the Contract Price, and any and all adjustments to the Contract Time. The CONTRACTOR acknowledges that explicitly included in every Change Order in accordance with this Article is a waiver of Section 1542 of the California Civil Code (as well as under any other state or federal statute or common law principle of similar effect) which provides as follows: "GENERAL RELEASE; EXTENT A general release does not extend to claims that the creditor or releasing party does not know or suspect to exist in his or her favor at the time of executing the release and that, if known by him or her, must have materially affected his or her settlement with the debtor or released party."
- E. Any change or modification in the Work shall be performed under applicable provisions of the Contract Documents, and the CONTRACTOR shall proceed promptly, unless otherwise provided in the Change Order or Work Directive Change.
- F. **Eliminated Items.** The DISTRICT reserves the right to eliminate any item of Work prior to the award of the Agreement without incurring any obligation to pay therefor. Should any item of the Work be eliminated in its entirety following the award of the Agreement and in the absence of an executed Change Order covering such elimination, payment will be made to the CONTRACTOR for reasonable costs actually incurred, and which are validated by the DISTRICT as being incurred, in connection with such eliminated item of Work but only to the extent that such reasonable costs

were incurred prior to the date of notification in writing by the DISTRICT of such elimination.

- G. In the event that a change or modification in the Work results in a reduction of the amount of labor and material to be supplied by the CONTRACTOR, the DISTRICT shall be given a credit equal to the actual value of such labor and materials plus a reasonable amount for the use of tools, materials and reasonable overhead and profit as set forth below; or, in the event that a modification results in an increase in the amount of labor and materials to be supplied by the CONTRACTOR, the DISTRICT shall pay the CONTRACTOR the actual value of such labor materials and equipment plus reasonable overhead and profit as set forth below. Unless otherwise agreed to by the DISTRICT and the CONTRACTOR, or as may otherwise be directed by the DISTRICT, all costs shall be included as unit prices acceptable to the DISTRICT and the CONTRACTOR, lump sum prepared by the CONTRACTOR and found acceptable by the DISTRICT, or by cost accounting pursuant to a Work Directive Change in accordance with this Article.
- H. In the event that the DISTRICT and the CONTRACTOR are unable to agree upon an increase or decrease to the Contract Price and/or modification to the Contract Time pursuant to any change or modification in the Work, the DISTRICT may, in addition to all other rights and remedies it has at law and pursuant to the Contract, take the following actions: (i) issue a written order to the CONTRACTOR to promptly proceed with the Work as directed by the DISTRICT pursuant to a Work Directive Change including, without limitation, on a cost accounting basis (e.g., force account) as set in this Agreement. Any claim by the CONTRACTOR for an increase in the Contract Price or an extension of the Contract Time shall be made in writing and in accordance with the provisions of this Agreement; or (ii) partially terminate the Contract for the items in question, and any such partial termination shall not be interpreted as a breach of contract and shall not give rise to any Claim on behalf of the CONTRACTOR for an adjustment in Contract Price, Contract Time, or both; or (iii) the DISTRICT may proceed to have the items in question performed by its own forces or by others, in its sole discretion.
- I. **Work Directive Change.** To the extent the DISTRICT elects not to issue a Change Order for the performance of Work that the CONTRACTOR contends is changed or modified Work, or if the DISTRICT and the CONTRACTOR have not agreed on the change in Contract Price and/or Contract Time, if any, required for a proposed change, or if time constraints do not permit preparation of an appropriate quotation, the DISTRICT may, without invalidating the Agreement, order changes or modifications to the Work and direct the CONTRACTOR to proceed accordingly by issuing a Work Directive Change. The CONTRACTOR shall, promptly upon receipt of a Work Directive Change, perform the identified Work as directed, including pursuant to the force account procedures under this Agreement, in strict compliance with the Work Directive Change and the Contract Documents, as expeditiously and timely as possible, and shall submit a complete and specific Claim for any increase in Contract Price or adjustment of Contract Time, or both, within ten (10) calendar days after such Work is performed.
- J. A Work Directive Change shall be used in the absence of total agreement on the terms of a Change Order, and shall be signed by the DISTRICT. If the Work Directive

Change provides for an adjustment to the Contract Price, the adjustment shall be based on one of the following methods at the sole discretion of the DISTRICT:

1. Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
 2. Unit prices stated in the Contract Documents or subsequently agreed upon;
 3. Costs pursuant to the force account basis as set forth in this Agreement; or
 4. Costs to be determined in a manner agreed upon by the DISTRICT and the CONTRACTOR and a mutually acceptable fixed or percentage fee, or as otherwise directed by the DISTRICT.
- K. The amount of credit to be given to the DISTRICT for a deletion or change pursuant to a Work Directive Change that results in a net decrease in the Contract Price shall be based on actual net cost as confirmed by the DISTRICT and the CONTRACTOR's overhead and profit on such costs. When both additions and credits covering related work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.
- L. Pending final determination of the total cost of a Work Directive Change, the CONTRACTOR may request payment for the Work completed under the Work Directive Change through an appropriate Application(s) for Payment. The DISTRICT will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the recommended amount that the DISTRICT determines, in their professional judgment, to be reasonably justified, if any.
- M. When the DISTRICT and the CONTRACTOR agree concerning the adjustments in the Contract Price and/or Contract Time, or both, the Work Directive Change shall be converted into a Change Order as promptly as reasonably possible. Change Orders may be issued for all or any part of a Work Directive Change. Failure of the CONTRACTOR to notify the DISTRICT in writing of any disagreement with any proposed adjustment to the Contract Price and/or Contract Time, or both, as applicable, or method for determining them as set forth in a Work Directive Change, within seven (7) days after the date of receipt by the CONTRACTOR of such Work Directive Change shall be deemed to be an agreement by the CONTRACTOR to the proposed adjustment to the Contract Price and/or Contract Time, or both, as applicable, or method for determining them as set forth in such Work Directive Change, and shall constitute a waiver by the CONTRACTOR of any Claims related thereto.
- N. **Information, Interpretations and Minor Changes.** The DISTRICT has the authority to order minor changes in the Work, including interpretations which are consistent with the intent of the Contract Documents. If the CONTRACTOR considers that any minor changes so ordered causes a change in Contract Price or Contract Time, or both, the CONTRACTOR shall notify the DISTRICT in writing within ten (10) calendar days of receipt of the order.
- O. If, after reviewing the CONTRACTOR's objection or response to a minor change, the DISTRICT determines the Work is required by the Contract Documents and does not

involve a change in Contract Price or Contract Time, the DISTRICT may direct the CONTRACTOR, in writing, to proceed with the work. If so directed, the CONTRACTOR shall promptly proceed with the work, and should the CONTRACTOR believe it is entitled to see a change in Contract Price or Contract Time, or both, the CONTRACTOR may assert a Claim in accordance with this Agreement, and shall document all costs in accordance with this Article.

P. **Determining Cost of Changes; Force Account.** The CONTRACTOR's quotations of cost on proposed changes and cost reported for work performed on a cost accounting basis (e.g., force account) shall be determined as the sum of the following:

1. Costs of labor including foremen engaged on the work but not of the Superintendent, field project manager, and other supervisory or support personnel except as provided in Article 11.P.5. Labor costs shall include the cost of social security, old age and unemployment insurance, fringe benefits required by labor agreements and workers' or workmen's compensation insurance;
2. Costs of materials, supplies and equipment, including cost of transportation, incorporated in the Work;
3. Rental costs for power tools and special or heavy equipment, except small tools and minor items of equipment, the CONTRACTOR will be paid in accordance with the current edition of "Labor Surcharge and Equipment Rental Rates" published by the State of California, Department of Transportation, Caltrans. No separate payment will be made for the use of small tools and minor items of equipment which cost shall be considered included in the overhead allowance. As used herein, small tools and minor items of equipment shall be individual tools or items of equipment having each a replacement value of \$200 or less;
4. Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the change;
5. The increased or decreased cost of the CONTRACTOR's supervision and field office personnel but only if the change affects the "critical path" of construction activities and requires a change in Contract Time;
6. The reasonable cost of any tier of Subcontractors' work computed as required for the CONTRACTOR's work. The mark-up charged by all Subcontractors for overhead and profit shall be the lesser of: i) subject to negotiation, ii) as included in the original Bid for the Work, or iii) an amount not to exceed a cumulative total of 15% of the direct costs of all Work performed by Subcontractor, or by Subcontractor and its sub-subcontractors where multiple tiers of Subcontractors are involved in the performance of the Work, and
7. For the reasonable Work performed by the CONTRACTOR, the mark-up for overhead, profit and all other costs shall be the lesser of: i) subject to negotiation, ii) as included in the original bid for the Work and contained in escrowed bid documents, or iii) an amount not to exceed: (A) For work self-performed by the CONTRACTOR, a total amount of 15% of the direct costs of the changed work performed; or (B) For work performed by both the CONTRACTOR and its Subcontractors, of all tiers (where the CONTRACTOR and its Subcontractors, of

all tiers, participate in the performance of the changed work), a total amount of 20% of the direct costs of the changed work performed.

- Q. **Limitations on Markup for Changes.** Where the CONTRACTOR self-performs a change in the Work, the maximum total amount of adjustment to the Contract Price for markup for overhead, profit, and all other costs shall not exceed fifteen percent (15%) of the direct costs of the changed work performed by the CONTRACTOR. Where the CONTRACTOR and its Subcontractors, of all tiers, participate in the performance of a change in the Work, the maximum total amount of adjustment to the Contract Price for markup for overhead, profit, and all other costs shall not exceed twenty percent (20%) of the direct costs of the changed work performed by the CONTRACTOR and its Subcontractors, of all tiers. Work shall be done making the most effective use of labor; materials shall be purchased at the lowest available price and all discounts shall be passed on to the DISTRICT; equipment shall be rented at the most favorable rate available for the term of use required.
- R. When both additions and deletions are related and pertain to the same Work item and are included in the same Change Order or Work Directive Change, the markup for overhead and profit shall be computed on the net increase, if any.
- S. The CONTRACTOR shall keep the DISTRICT informed as to when and where work is being performed on a cost accounting basis and shall submit complete auditable records of the cost of such work including daily time sheets signed daily by the DISTRICT.
- T. **Contractor Maintenance of Daily Records for Changes.** In the event that the CONTRACTOR is directed to perform any changes to the Work, or should the CONTRACTOR encounter conditions which the CONTRACTOR believes would obligate the DISTRICT to adjust the Contract Price and/or the Contract Time, the CONTRACTOR shall maintain detailed records of the cost of such changes on a daily basis and a summary in a daily report supplemented by back-up records. Such records shall include without limitation hourly records for labor and construction equipment, itemized records of materials, including delivery tickets, and equipment used each day in connection with the performance of any change to the Work. In the event that more than one change to the Work is performed by the CONTRACTOR in a calendar day, the CONTRACTOR shall maintain separate records of labor, construction equipment, materials, and equipment for each such change. In the event that any Subcontractor of any tier shall provide or perform any portion of any change to the Work, the CONTRACTOR shall require that each such Subcontractor maintain records in accordance with this Article. Each daily record maintained hereunder shall be signed by the CONTRACTOR; such signature shall be deemed the CONTRACTOR's representation and warranty that all information contained therein is true, accurate, complete, and relates only to the change referenced therein. All records maintained by Subcontractors of any tier, relating to the costs of a change in the Work shall be signed by such Subcontractor's authorized Project Manager or Superintendent as a representation and warranty that all information contained therein is true, accurate, complete, and relates only to the change referenced therein.
- U. **Submission of Daily Records.** All such records shall be delivered to the DISTRICT not later than on the day the Work is performed (same day) for independent verification. The DISTRICT shall attempt to review and reconcile costs of changes on a

daily basis. The DISTRICT's signature on the report shall indicate agreement with the information reflected therein, not that the CONTRACTOR is entitled to payment of the costs in the report. If the DISTRICT disagrees with the response, the DISTRICT shall note the areas of disagreement on the report. In the event that the CONTRACTOR shall fail or refuse, for any reason, to maintain or make available for inspection, review and/or reproduction such records, adjustments to the Contract Price or Contract Time, if any, on account of any change to the Work may be deemed waived for that day. The CONTRACTOR's obligation to maintain back-up records hereunder is a material inducement to and in addition to, and not in lieu of, any other CONTRACTOR obligation under the Contract Documents with respect to changes to the Work.

1. Labor. The daily report shall show the names, trade, labor, classifications, and hours worked, for the workers.
 2. Material. The daily report shall describe and list quantities of materials used, attaching delivery tickets.
 3. Equipment. The daily report shall show type of operation, including loading and transportation, if applicable.
 4. Other Services and Expenditures. Other services and expenditures shall be described in such detail in the daily report as the DISTRICT may require.
 5. Cost. The report shall provide dollar values for each category of cost.
- V. Any work or changed work for which the CONTRACTOR may wish to make a Claim shall strictly comply with, and be done in accordance with this Agreement, including, without limitation, the cost accounting (e.g., force account) requirements set forth under this Agreement.
- W. Change in Contract Time Due to Changes in the Work. If the Work required by a Change Order results in an extension of, or adversely affects, the Critical Path of construction tasks under the existing construction schedule and is the sole, unavoidable cause for an increase in the length of time required to complete the Work, the Contract Time will be adjusted accordingly subject to the CONTRACTOR's strict compliance with all requirements of the Contract Documents, including, without limitation Section 00800 - Special Provisions.

11. CLAIMS AND DISPUTE RESOLUTION PROCEDURES

- A. **Notice of Potential Claim.** The CONTRACTOR is not entitled to additional compensation for any cause, including a disagreement, protest, or change, an act or failure to act by the DISTRICT, or the happening of an event, thing or occurrence, or an adjustment of Contract Price or Contract Time, unless the CONTRACTOR has given the DISTRICT written Notice of Potential Claim ("NOPC") as required under this Article.
1. The NOPC must clearly describe the nature, circumstances, and basis of the potential claim, and must explain the reasons that the CONTRACTOR believes additional compensation and/or time will or may be due, the nature of the costs

and/or time involved, the amount of the potential claim, a request for equitable adjustment, and written and verifiable documentation and support.

2. Except as otherwise required in the Contract Documents, the CONTRACTOR must promptly provide an NOPC to the DISTRICT upon discovery of concealed or unknown conditions or a disagreement, protest, situation, event, or occurrence that may result in a Claim. This notice must be submitted no more than 7 calendar days after the discovery or occurrence of an event that may be the basis for a Claim for an adjustment of the Contract Price or an extension of Contract Time, or both, or within any time limits specified elsewhere in the Contract Documents, whichever is shorter; failure to do so waives the CONTRACTOR's right to assert the Claim. Nothing set forth in this Section shall reduce, limit or waive any requirements set forth elsewhere in the Contract Documents, or by law, including without limitation as to the time and manner of any notice.
3. If costs or time cannot be reasonably determined at the time the NOPC is provided, the NOPC must be amended to include quantified cost and time impacts within 30 days after work has ceased on the event that prompted the NOPC; failure to do so waives the Claim in its entirety. For NOPC events that extend more than 30 days, the CONTRACTOR must provide a monthly accounting of ongoing costs and time impacts by the 5th day of the succeeding month; failure to do so waives the Claim.

- B. **Duty to Mitigate Damages.** The CONTRACTOR is required to undertake all reasonable and practical efforts to mitigate the damaging effects of a potential current or future Claim it perceives as a result of an act or failure to act on the part of the DISTRICT, or as a result of an event, thing or occurrence. Written notice by the CONTRACTOR of a potential Claim does not excuse the CONTRACTOR from pursuing the mitigation of a Claim in good faith and with due diligence. Where possible, or if directed by the DISTRICT, the CONTRACTOR must be prepared to discuss various methods of mitigation with the DISTRICT prior to actual mitigation. The obligation to minimize foreseeable damages requires that the CONTRACTOR use reasonable care and diligence to prevent an unwarranted incurrence of damages from a delay caused by the other party or an unforeseen event. In evaluating a delay, if, in the opinion of the DISTRICT, the delay could have been avoided by due care of the CONTRACTOR, the CONTRACTOR is responsible for the additional costs attributed to the failure to mitigate.
- C. The CONTRACTOR's Surety or Sureties shall be bound by any award or judgment rendered in any proceeding arising from the Project or undertaken in accordance with the Contract Documents. Further, the CONTRACTOR's Surety or Sureties shall be bound by and subject to the CONTRACTOR's Surety or Sureties shall, at the request of the DISTRICT (or the CONTRACTOR), participate in any dispute resolution proceedings, including mediation or litigation, that occur pursuant to the Contract Documents.
- D. The DISTRICT and the CONTRACTOR intend that any disputes or differences between the DISTRICT and the CONTRACTOR arising under the Agreement or concerning the Contract Documents be brought to the attention of the DISTRICT at the earliest possible time in order that such matters may be addressed and/or settled, if

possible, or other appropriate action promptly taken. The DISTRICT and the CONTRACTOR agree to initially strive to resolve all disputes amicably and in an informal manner as provided for in the Contract Documents. If the resolution of any dispute involves a change in the Work, increase or decrease in the Contract Price, or adjustment in the Contract Time, then the informal dispute resolution shall be documented and confirmed by a Change Order pursuant to the Contract Documents. Informal discussions or negotiations with the DISTRICT or its representatives concerning informal resolution of a dispute shall not toll or suspend the times associated with pursuing a Claim provided herein, unless so provided by the DISTRICT in writing.

- E. The CONTRACTOR shall not be entitled to an increase in Contract Price, or adjustment of Contract Time, or both, for claimed extra work (or otherwise on account of any claim, cause, act, failure to act, or happening of any event or occurrence) unless the DISTRICT has issued a Change Order pursuant to the Contract Documents, or a Claim has been timely filed and approved pursuant to the Contract Documents. If the CONTRACTOR fails to timely file a written Claim in accordance with the Contract Documents, then the CONTRACTOR shall be deemed to have waived any right or remedy to thereafter pursue the Claim against the DISTRICT in any administrative, arbitration or litigation proceeding.
- F. Claims. "Claim" or "Claims" means a separate written demand by the CONTRACTOR for one or more of the following:
1. An extension of Contract Time, including, without limitation, for relief from damages or penalties for delay assessed by the DISTRICT under the Contract for the Project;
 2. Payment by the DISTRICT of money or damages arising from work done by, or on behalf of, the CONTRACTOR which shall result in an increase to the Contract Price, and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled; and/or
 3. Payment of any amount that is disputed by the DISTRICT.
- G. **Requirements for Filing of Claim;** Contents; Filing Deadline. The CONTRACTOR may file a Claim with the DISTRICT. A Claim must (a) be in writing; (b) be labeled or clearly indicated as a Claim under the Agreement; (c) set forth in detail the reasons why the CONTRACTOR believes an adjustment to the Contract Price and/or Contract Time is or may be due, the nature of the costs and time issues involved, and, insofar as possible, the total amount of the Claim; (d) include (or reference earlier provided) documents that support and substantiate the Claim, including, without limitation complete documented costs of doing the Work for which it is making a Claim submitted in accordance with the requirements of the Contract Documents; and (e) include the following certification, properly completed and executed by CONTRACTOR or any officer of CONTRACTOR:

I, _____, BEING THE _____
(must be a project manager or officer) OF _____ (CONTRACTOR),
DECLARE UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE STATE OF
CALIFORNIA, AND I DO PERSONALLY CERTIFY AND ATTEST THAT: I HAVE

THOROUGHLY REVIEWED THE ATTACHED CLAIM FOR ADDITIONAL COMPENSATION AND/OR EXTENSION OF TIME, AND KNOW ITS CONTENTS, AND SAID CLAIM IS TRUTHFUL AND ACCURATE; THAT THE AMOUNT AND/OR CONTRACT TIME EXTENSION REQUESTED ACCURATELY REFLECTS THE CONTRACT ADJUSTMENT FOR WHICH THE DISTRICT IS LIABLE; AND FURTHER, THAT I AM FAMILIAR WITH CALIFORNIA PENAL CODE SECTION 72 AND CALIFORNIA GOVERNMENT CODE SECTION 12650, ET SEQ., PERTAINING TO FALSE CLAIMS, AND FURTHER KNOW AND UNDERSTAND THAT SUBMISSION OR CERTIFICATION OF A FALSE CLAIM MAY LEAD TO FINES, IMPRISONMENT AND/OR OTHER SEVERE LEGAL CONSEQUENCES.

- H. A Claim must be submitted to the DISTRICT within the following Claim filing deadlines: (a) if a deadline is set forth in the Contract Documents for filing of the particular Claim, then the Claim must be filed by the specified time; (b) if the Claim relates to extra, additional or unforeseen work for which the CONTRACTOR intends to demand an adjustment to the Contract Price or Contract Time, or both, written notice shall be given to the DISTRICT at least five (5) days prior to the time that the CONTRACTOR is to commence performance of the Work giving rise to the potential Claim, and the CONTRACTOR shall not proceed with that work until so directed by the DISTRICT; and (c) for all other Claims not included within (a) or (b), the Claim must be filed on or before ten (10) days after the date of the occurrence, event or circumstance giving rise to the Claim. In no event shall a Claim be filed later than the date of Final Payment. The failure of the CONTRACTOR to timely file its Claim shall result in the waiver of the Claim in its entirety.
- I. **Claims Subject to Public Contract Code Section 9204; Procedures.** This Section applies solely to the handling and resolution of a Claim(s) sent to the DISTRICT by registered mail or certified mail with return receipt requested in accordance with Public Contract Code section 9204(c)(1).
1. With respect to any Claim(s) sent to the DISTRICT in accordance with this Agreement, the provisions of Public Contract Code section 9204 shall apply
 2. In the event mediation, if any, is unsuccessful pursuant to Public Contract Code section 9204, and all or parts of the Claim(s) remain in dispute, then the CONTRACTOR shall thereafter comply with the Claim procedures as set forth, in this Agreement, as applicable.
- J. **Claims Equal to or Less than \$375,000; Procedures.** This applies solely to the handling and resolution of a Contract Claim(s) that is/are in an amount equal to or less than Three Hundred Seventy-Five Thousand Dollars (\$375,000).
1. With respect to any Claim(s) subject to this section, the provisions of Public Contract Code Section 20104, et seq. shall apply.
 2. Agreement to Opt-Out. Notwithstanding anything to the contrary in the Contract Documents, the DISTRICT and the CONTRACTOR may mutually agree at any time, in writing, that any Claim(s) to which the obligations set forth in this Section apply (i.e., unresolved Claims in an amount equal to or less than \$375,000) shall be subject to the dispute resolution requirements as set forth below applicable to the resolution and handling of claims in an amount in excess of \$375,000.

K. **Claims Exceeding \$375,000; Procedure.** This applies solely to the handling and resolution of a Claim(s) that is/are in an amount exceeding Three Hundred Seventy-Five Thousand Dollars (\$375,000). With respect to any Claim(s) subject to this Part, the following shall apply:

1. The DISTRICT shall review facts pertinent to the Claim and request any additional information from the CONTRACTOR deemed necessary for a decision, if any. The CONTRACTOR shall promptly respond to any such request and provide any additional information as requested by the DISTRICT. The DISTRICT shall render a written decision on the Claim within sixty (60) days of receipt of the Claim and any additional information, unless the DISTRICT advises the CONTRACTOR in writing that additional time is required to evaluate the Claim, which shall constitute the Final Claim Determination.
2. If the CONTRACTOR disputes the Final Claim Determination of the DISTRICT, or if the DISTRICT fails to respond within the time prescribed, the CONTRACTOR may so notify the DISTRICT, in writing, either within fifteen (15) days of receipt of the written decision or the DISTRICT's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the DISTRICT shall schedule a meet and confer conference within thirty (30) days for the purpose of discussing settlement of the Claim.
3. Submission of a Claim, in conformance with all the requirements of the Contract Documents, and rejection of all or part of said Claim by the DISTRICT, is a condition precedent to any further action upon the Claim by the CONTRACTOR.
4. **Mediation.** The DISTRICT and the CONTRACTOR (and the CONTRACTOR's Surety or Sureties, or any Subcontractor, if requested to participate by the DISTRICT) agree to engage in good faith efforts to seek to resolve any outstanding Claims submitted pursuant to this Article by mediation prior to proceeding with, and as a condition precedent to, further dispute proceedings.
 - a. **Initiation of Mediation.** Within ten (10) calendar days after the DISTRICT issues its Final Claim Determination pursuant to this Agreement, or the conclusion of any meet and confer conference pursuant to this Agreement, either party may initiate mediation of a Claim or dispute by notifying the other party, in writing, of its intent to mediate any Claims denied or rejected by the DISTRICT or otherwise in dispute. The CONTRACTOR hereby expressly waives all Claims not timely submitted to mediation.
 - b. **Request for Mediation.** A request for mediation must be in writing and set forth a brief statement that identifies the Claim, the asserted damages, the names, addresses, and contact information of the parties, and identify their authorized representative, if any, that will participate in the mediation.
 - c. **Selection of Mediator.** Upon receipt of a request for mediation, within fourteen (14) calendar days, the parties will meet and confer to select an appropriate mediator agreeable to all parties. If the parties cannot agree on a mediator, they hereby agree to accept a mediator to be appointed by a

recognized alternative dispute resolution organization, such as the American Arbitration Association or JAMS. The parties agree that any neutral selected or appointed to preside over the mediation shall be an attorney admitted to practice law in the State of California or a retired judge, and he or she shall possess at least 10 years' experience practicing law in the substantive areas of public contracting, public construction contracts and construction litigation.

d. **Time and Place of Mediation.** The mediator, using advice and input from the parties, shall set the time of each mediation session, as well as the mediation protocol (i.e., submission of briefs, statement of damages, etc.). The mediation will be held at any convenient location agreeable to the mediator and the parties, as the mediator determines. All reasonable efforts will be made by the parties and the mediator to schedule the first session within thirty (30) calendar days after selection of the mediator.

e. **Expenses.** All fees paid to the mediator, including any required traveling and other expenses of the mediator, will be shared equally among the parties to the mediation.

f. **Termination of Mediation.** The mediation may be terminated: (a) by the execution of a settlement agreement by the parties; (b) by a written declaration of the mediator to the effect that further efforts at mediation are no longer worthwhile; or (c) by a writing on behalf of a party or parties to the effect that the mediation proceedings are terminated. (g) **Privileges and Protections:** All meetings, communications and correspondence relative to the mediation procedures set forth in this Section shall be subject to any applicable mediation or settlement related privilege afforded under California law, including, without limitation, California Evidence Code Sections 1115, et seq., 1152 and 1154.

g. **Presentation of Statutory Claims; Litigation.** Nothing in this Part or the Contract Documents is intended nor shall be construed to change the time periods for filing tort claims or other actions specified by Chapter 1 (commencing with section 900) and Chapter 2 (commencing with section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code, nor otherwise effect the requirements of any other provisions of California law applicable to the presentation of Claims and prosecution of disputes by the CONTRACTOR. The CONTRACTOR shall be responsible to fully and timely satisfy all such requirements as may be applicable to any Claim presented by the CONTRACTOR in accordance with any applicable laws and regulations. Any litigation arising out of the Contract Documents shall be brought in the Nevada County Superior Court, and the CONTRACTOR, and its Surety(ies), expressly waive the removal provisions of California Code of Civil Procedure Section 394.

L. **Work Continues During Disputes.** In the event of any dispute between the DISTRICT and the CONTRACTOR, or during the pendency of any Claim(s) or associated proceedings under this Article or the Contract Documents, the CONTRACTOR shall not stop, or delay performance of, the Work, but shall prosecute the Work diligently to completion in the manner directed by the DISTRICT, unless otherwise directed in writing by the DISTRICT.

- M. **Application.** The procedures and remedies set forth in this Article shall not apply to any claim by the DISTRICT against the CONTRACTOR or its Surety or Sureties, nor any right or obligation which the DISTRICT seeks to enforce against the CONTRACTOR (unless the DISTRICT, in its sole discretion, opts to proceed hereunder).

12. CONTRACT TIME AND DELAYS

A. Definitions of Terms:

1. "Excusable Delay" is any delay to the completion of the Project beyond the expiration of the Contract Time caused by conditions beyond the control and without any fault or negligence of the CONTRACTOR (or its Subcontractors or suppliers), such as strikes, embargoes, fire, unavoidable casualties, unusual delays in transportation, national emergency, and Unusual Weather. The financial inability of the CONTRACTOR or any subcontractor or supplier, and default of any subcontractor or supplier, without limitation, shall not be deemed conditions beyond the CONTRACTOR's control. The CONTRACTOR may make a Claim under this Agreement for an extension of Contract Time due to an Excusable Delay if it can show that the Excusable Delay is the sole and unavoidable cause increasing the Contract Time actually needed to complete the Work. The CONTRACTOR shall not be entitled to an increase in Contract Price due to an Excusable Delay.
2. "Compensable Delay" is any delay to the completion of the Project beyond the expiration of the Contract Time for which the DISTRICT is solely responsible due to its conduct or inaction (and not including delays arising from Excusable Delay) and which delay is unreasonable under the circumstances involved, and not within the contemplation of the parties, but shall not include any delay to the performance of the Work to the extent that the CONTRACTOR's performance is, was or would have been suspended, delayed or interrupted by another cause for which the CONTRACTOR (or its Subcontractors or suppliers) is/are solely or partially responsible (i.e., concurrent CONTRACTOR-caused delays). Subject to strict compliance with the terms and requirements of the Contract Documents, a Compensable Delay may entitle the CONTRACTOR to an extension of the Contract Time and/or an adjustment of the Contract Price. Except as provided for under the Contract Documents, and subject to Public Contract Code section 7102, the CONTRACTOR shall have no claim for damage or compensation for any delay, interruption, hindrance, or disruption. In the case of a delay which was caused in part by the CONTRACTOR and in part by the DISTRICT (Concurrent Delay), the CONTRACTOR shall only be entitled to an extension of the Contract Time and the CONTRACTOR shall not be liable for Liquidated Damages during the period of Concurrent Delay, but the CONTRACTOR shall not be entitled to any adjustment to the Contract Price whatsoever during the period of Concurrent Delay.
3. "Unusual Weather" is defined as the number of Wet Days exceeding the most recent published mean number of Wet Days for the construction period (e.g., for the same month) at the weather observing station closest to the project site as reported in "Comparative Climatic Data" published by the National Oceanic and

Atmospheric Administration, Ashville, NC 28801. "Wet Days" are defined as days that have at least 0.01 inch of rainfall.

- B. **Computation of Time.** Any period of time referred to in the Contract Documents measured in days shall mean consecutive calendar days and shall exclude the first and include the last day. If the last day falls on a Saturday, Sunday or legal holiday, it shall be omitted from the calculation.
- C. **Contract Time.** Time limits stated in the Agreement are the essence of the Contract. The CONTRACTOR confirms that the Contract Time is a reasonable period for performing the Work and includes enough float time to allow for normal unfavorable weather and other reasonably anticipated delays.
- D. **Damages for Late Completion.** The CONTRACTOR shall complete all Work (inclusive of all interim milestones as defined in the Contract Documents), in strict accordance with the Contract Documents, and within the allocated Contract Time, subject to approved extension(s) of the Contract Time that may be granted by the DISTRICT, if any, during the course of the Project. In the event of a failure on part of the CONTRACTOR to achieve Final Completion within the allocated Contract Time, the CONTRACTOR shall pay to the DISTRICT Liquidated Damages in accordance with the Contract Documents. The DISTRICT reserves the right, in its sole discretion, to make a detailed written determination of the losses and damages incurred arising from the failure of the CONTRACTOR to achieve Final completion within the Contract Time, including any approved extensions, and to receive such full recompense from the CONTRACTOR.
- E. **Commencing Work.** The CONTRACTOR shall not commence work (1) prior to the date in the Notice to Proceed; (2) prior to giving the DISTRICT five (5) days written notice; and (3) prior to the effective date of insurance coverage required under this Agreement, evidence of which shall be submitted to the DISTRICT prior to commencement of the Work.
- F. **Delays.** Time is of the essence in the performance of this Agreement. The CONTRACTOR must complete the entire Work of the Project, and all designated portions thereof, within the Contract Time(s), subject to any authorized extension(s) thereof, pursuant to the Contract Documents. Failure of the CONTRACTOR to include an element of the Work required for performance of the Agreement in the current, updated construction schedule (or any earlier version of the construction schedule), or any inaccuracy in the construction schedule, does not relieve the CONTRACTOR from responsibility for accomplishing the Work within the Contract Times designated in the Contract Documents. The CONTRACTOR must provide an adequate workforce, materials of proper quality, and equipment to properly execute the Work and to ensure completion of each part of the Work in accordance with the Contract Documents and the construction schedule.
- G. **Acceleration to Meet Construction Schedule.** The contractor shall proceed expeditiously with adequate forces and shall achieve Final Completion within the Contract Time. If the CONTRACTOR's performance falls behind schedule, the CONTRACTOR shall accelerate the Work, or a portion of the Work, as required to get back on schedule at no additional cost to the DISTRICT. Accelerated work shall include air or express delivery of materials and equipment, increasing the number of

workers, working overtime, working Saturdays, Sundays, and holidays (subject to the advance approval of the DISTRICT), and working additional shifts. The CONTRACTOR shall pay the DISTRICT for any extra cost of inspection made necessary by accelerated work required under this provision.

1. The DISTRICT reserves the right to direct the CONTRACTOR to accelerate performance of the Work, or any portion of the Work, or to work overtime when it is determined to be in the best interest of the DISTRICT or the Project. No action or direction of the DISTRICT other than an express written direction by the DISTRICT to accelerate performance of the Work or to work overtime shall be construed by the CONTRACTOR to be direction to accelerate the Work or to work overtime.
- H. The DISTRICT will consider extensions to the Contract Times for the following reasons only if they are adequately demonstrated by the CONTRACTOR to affect the critical path of the construction schedule, as may be adjusted in accordance with the Contract Documents:
1. Delays in the progress of the Work due to Excusable Delay;
 2. Delays in the progress of the Work due to a Compensable Delay or an act of neglect by the DISTRICT, but only for the amount of delay time that occurs after the CONTRACTOR has notified the DISTRICT in writing and the DISTRICT has had a reasonable time to respond to the notification; or
 3. An Approved Change Order that extends the Contract Time.
- I. Whenever the CONTRACTOR foresees any delay in the prosecution of the Work, the CONTRACTOR must notify the DISTRICT in writing of any potential delay or impact, including any anticipated impact on the Contract Price and/or Contract Time, or both. Within seven (7) calendar days from the beginning of any critical path delay to the construction schedule, or the occurrence(s) giving rise to the delay, whichever occurs earlier, the CONTRACTOR must provide written notice of the delay event to the DISTRICT. Said written notice shall include a description of the event or occurrence giving rise to the delay, the estimated duration of the delay, and the impact of the event or occurrence upon the critical path and Final Completion. The CONTRACTOR expressly waives any claim for delay or adjustment to the Contract Time and/or Contract Price if the CONTRACTOR fails to provide such written notice to the DISTRICT.
- J. Within thirty (30) calendar days after the initial written notice of the CONTRACTOR, the CONTRACTOR shall submit all supporting information to the DISTRICT to validate the claimed impact of the delay on the Contract Time, including a Time Impact Analysis ("TIA") in accordance with the requirements and provision set forth in Section 1310 – Construction Progress Schedule. If requested by the DISTRICT, the CONTRACTOR shall promptly, and no later than seven (7) calendar days after the DISTRICT's request, provide updated or further supporting information, including an updated or revised TIA, with respect to the claimed delay or impact. The CONTRACTOR expressly waives any Claim for delay or adjustment to the Contract Time and/or Contract Price if the CONTRACTOR fails to promptly and timely provide

all supporting information, including the TIA and any additional/supplemental supporting information as may reasonably be requested by the DISTRICT.

- K. The DISTRICT will ascertain the facts and the extent of the delay and adjust the Contract Times for completing the Work (and/or adjust the Contract Price) if, in the DISTRICT's sole discretion and judgment, the facts justify such an adjustment pursuant to the Contract Documents. The DISTRICT's written determination in this regard shall be considered final and conclusive. In the event CONTRACTOR disputes the DISTRICT's written determination, CONTRACTOR's sole and exclusive remedy shall be to pursue a Claim in strict accordance with the requirements of this Agreement.
- L. The DISTRICT shall not consider any request for an adjustment to the Contract Time and/or Contract Price unless the CONTRACTOR satisfies the requirements set forth in the Contract Documents for providing prompt and timely written notice of the potential delay and submission of supporting information (including the TIA, and any further or additional supporting information as may be reasonably requested by the DISTRICT) establishing the impact of the delay on the critical path of the construction schedule. No adjustment of the Contract Time and/or Contract Price will be considered, or granted, as a consequence of any claimed delay event in the absence of the CONTRACTOR's strict compliance with the requirements of the Contract Documents.
- M. The DISTRICT shall not be responsible to the CONTRACTOR for any constructive acceleration due to the CONTRACTOR's failure to comply with the submission and justification requirements of the Contract Documents for Contract Time and/or Contract Price adjustment requests. The CONTRACTOR's failure to perform in accordance with the construction schedule shall not be excused because the CONTRACTOR has submitted a request for adjustment of the Contract Time, unless and until the DISTRICT approves such request.
- N. Unless the DISTRICT and the CONTRACTOR agree otherwise pursuant to a Change Order, in the event that the DISTRICT adjusts the Contract Time pursuant to a Compensable Delay, any request by the CONTRACTOR for delay costs (inclusive of all direct and indirect costs, expenses and overhead costs), if applicable, shall be limited solely to those costs identified in this Agreement. The CONTRACTOR shall neither claim nor recover any overhead costs in addition to those expressly allowed in this Agreement, nor shall the CONTRACTOR be entitled to claim or recover any "home office" expenses, "extended site overhead," or any other overhead cost on the basis of any "home office" damages formula, "Eichleay" formula, "Total Cost" recovery formula or any other such formula or calculation.
- O. Adjustments in Contract Time associated with changes or modifications ordered through a Change Order by the DISTRICT are subject to the requirements under this Agreement. An executed Change Order covering changes or modifications ordered by the DISTRICT under this Agreement, or the resolution of Claims made under the Agreement, shall be the final and conclusive resolution of any adjustment to the Contract Time and/or Contract Price for the Work or Claim covered by the Change Order.
- P. **No Early Completion Delay Damages.** While the CONTRACTOR may schedule completion of all the Work, or portions thereof, earlier than the Contract Time

established in the Agreement, the DISTRICT is exempt from liability for and the CONTRACTOR shall not be entitled to an adjustment of the Contract Price or to any additional costs, damages, or compensation whatsoever, for use of float or for the CONTRACTOR's inability to complete the Work earlier than the Contract Time established in the Agreement, for any reason whatsoever, including but not limited to, delay caused by the DISTRICT, or other delay event.

13. INSPECTION, DEFECTIVE WORK, WARRANTY

- A. **Defective Work.** Defective Work is Work that, among other things: (1) is unsatisfactory, rejected, faulty, deficient, non-compliant, or leaks, breaks, fails or does not conform, whether generally or strictly, to the Contract Documents; or (2) does not meet the requirements of reference standards, tests or approvals specifically referred to in the Contract Documents; or (3) has been damaged prior to final acceptance; or (4) does not meet applicable industry or trade standards; or (5) a submittal is required and Favorable Review has not been obtained.
- B. **Access to Work and Notice.** The CONTRACTOR shall provide the DISTRICT and its representatives safe access to every part of the Work at all times Work is in progress for observation, inspecting and testing. The CONTRACTOR shall give at least two (2) business days' notice of work being ready for required inspection, test or approval or of intent to cover work up.
- C. **Tests and Inspections.** Unless otherwise specified, the CONTRACTOR shall arrange and pay for tests, inspections and approvals required by Laws and Regulations, ordinances, rules, and orders of public authorities having jurisdiction, or by the Contract Documents. All such tests, inspections and approvals shall be performed by an independent testing laboratory or inspection agency acceptable to the DISTRICT or to the appropriate public authority. Samples to be tested and items of work to be inspected will be selected by the DISTRICT or the public authority requiring the test or inspection. Test reports, inspection reports and certificates shall be submitted directly to the DISTRICT by the performing laboratory or agency. The CONTRACTOR shall notify the DISTRICT at least two (2) business days' prior to all tests and inspections to permit observation by the DISTRICT.
- D. **Re-inspection.** If the DISTRICT determines that portion(s) of the Work require additional testing or retesting, the CONTRACTOR shall provide material to be tested, safe access to test locations, power, light and other services. The cost of retesting shall be paid for by the DISTRICT, but if the additional tests or retesting indicate that said portion of the Work is Defective, the CONTRACTOR shall pay the DISTRICT all costs associated with additional testing or retesting including the cost of the DISTRICT's additional service.
- E. **Uncovering Work.** If work is covered or concealed without giving the DISTRICT at least two (2) business days' notice to permit observation, it shall be uncovered or exposed at the CONTRACTOR's expense to permit observation if so requested.
- F. If the DISTRICT wishes to have work uncovered for observation after having been given the required notice to observe it, the CONTRACTOR shall uncover the work on a cost accounting (e.g., force account) basis in accordance with this Agreement. If the work is found to be in accordance with the Contract Documents, the DISTRICT shall

pay the cost of uncovering and replacing the work. If the Work is found to be Defective, the CONTRACTOR shall pay the cost of uncovering and correcting the work and the cost of required additional Project Management and testing service.

- G. **Correction of Defective Work.** The CONTRACTOR shall promptly correct or remove and replace, to the satisfaction of the DISTRICT: (1) work rejected by the DISTRICT as being Defective, and (2) work that is Defective whether or not rejected by the DISTRICT. The CONTRACTOR shall correct Defective Work prior to installing subsequent related or connected Work. The CONTRACTOR's obligation to correct Defective Work applies to latent as well as patent defects and whether or not the work is fabricated, installed or completed and whether observed before or after Substantial Completion. The CONTRACTOR shall bear all direct, indirect and consequential costs of such correction or replacement and removal (including but not limited to fees and charges of any consultants) made necessary thereby.
1. The fact that work and materials have been tested or inspected from time to time, and payments have been made, shall not relieve the CONTRACTOR from the responsibility of replacing and making good any defective work or materials that may be discovered before or after the date of completion of the Work by the CONTRACTOR and its approval and acceptance by the DISTRICT.
 2. Failure of the DISTRICT to object to any defects in Work or material or variances from the Drawings and Specifications during or after construction shall not be deemed a waiver by the DISTRICT of such defects or variances; nor by such failure shall the DISTRICT be deemed stopped from requiring the CONTRACTOR to correct such defects or variances.
- H. **Acceptance or Use of Defective Work.** The DISTRICT may elect to accept Defective Work in which case a deductive Change Order shall be signed by the CONTRACTOR reflecting the decreased value of the Work. If final payment has been made, the CONTRACTOR shall pay to the DISTRICT a sum reflecting the decreased value of the Work. The CONTRACTOR shall also bear all direct, indirect and consequential costs attributable to the DISTRICT's evaluation of and determination to accept such Defective Work (and which shall include, but not be limited to, fees and charges of Project Managers, architects, and other consultants).
1. The DISTRICT may use Defective Work without negating its rejection or decreasing the Warranty Period which shall commence when the work is finally corrected or replaced and accepted. When all or part of the Work is being used by the DISTRICT, the CONTRACTOR shall schedule correction or replacement of Defective Work at the DISTRICT's convenience.
- I. **Correction of Defective Work by the DISTRICT.** Should the CONTRACTOR fail or refuse, after written notice from the DISTRICT to correct Defective Work, or to remove and replace rejected Defective Work as required by the DISTRICT, or when the CONTRACTOR fails to perform the Work in strict accordance with the Contract Documents, or when the CONTRACTOR fails to comply with any other provision of the Contract Documents, the DISTRICT may, at its sole option and after two (2) days written notice to the CONTRACTOR, correct and remedy any such Defective Work. No written notice shall be required from the DISTRICT in the event that the correction and

remediation of the Defective Work is required to immediately address an emergency situation, or to abate any risk to life, health or safety.

1. The DISTRICT's exercise of the rights and remedies under this Section shall be in addition to, and not in lieu of, any other rights and remedies available under the Contract Documents of applicable law.
2. All direct, indirect and consequential costs incurred by the DISTRICT in exercising such rights and remedies will be charged against the CONTRACTOR, and a Change Order will be issued adjusting the Contract Price. Such direct, indirect and consequential costs shall include, but not be limited to, fees and charges of any consultants, all court and arbitration costs and all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of the CONTRACTOR's defective work.
3. The CONTRACTOR shall not be allowed an extension of Contract Time because of any delay in performance of the Work attributable to the exercise by the DISTRICT of DISTRICT's rights and remedies under this Article.

J. **Warranty and Correction Period.** When within one year after the date of the DISTRICT's acceptance of the Work or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable warranty or special guarantee required by the Contract Documents or by any specific provisions of the Contract Documents, any Work is found to be Defective Work, the CONTRACTOR shall promptly, without cost to the DISTRICT and in accordance with written instructions given by the DISTRICT, either correct such defective work, or, when it has been rejected by the DISTRICT, remove it from the site and replace it with nondefective work. Acceptance of the Work by the DISTRICT or its representatives, shall in no way release the CONTRACTOR from its responsibility to comply with the provisions of the Contract Documents, even though deviations or Defective Work may not be discovered within the aforementioned one-year period. The one-year correction period set forth herein, and any and all guarantee or correction periods, does not in any way limit or waive the DISTRICT's rights to pursue legal action for patent or latent construction defects in accordance with California Code of Civil Procedure sections 337.1 and/or 337.15. Further, nothing contained in the Contract Documents shall be construed to limit in any manner the liability of the CONTRACTOR, or its Subcontractors and suppliers, or any tier, for damages sustained as a result of latent or patent defects in equipment or materials furnished or caused by the negligence of the CONTRACTOR or its subcontractors and suppliers, of any tier. The warranty contained in this Agreement, shall not be a waiver of nor shall they reduce any guarantee or warranty offered by the suppliers of materials or equipment furnished under this Agreement nor shall they reduce any responsibilities imposed on manufacturers or suppliers of such equipment under applicable law.

K. Where the CONTRACTOR does not promptly and strictly comply with the terms of such written instructions given by the DISTRICT, or if the CONTRACTOR fails to comply with the requirements of any warranty or guarantee required by this Agreement within two (2) days after being notified in writing, or in an emergency where delay would cause serious risk of loss or damage, the DISTRICT may have the defective work corrected or the rejected work removed and replaced in accordance with this Section.

- L. In special circumstances where a particular item of equipment is placed in continuous use and service before final acceptance of the Work by the DISTRICT, the correction period for that item may start to run from an earlier date when so provided in the Contract Documents, or if agreed to in writing by the DISTRICT.
- M. In the event it is necessary for the DISTRICT to commence litigation to enforce any obligation or liability of the CONTRACTOR pursuant to this Section, the DISTRICT shall be entitled to recover from the CONTRACTOR, in addition to all other amounts found due and owing, fees of any consultants or experts necessary to address or correct the Defective Work.

14. PAYMENT

- A. **Schedule of Values.** At least thirty (30) days prior to the first Application for Payment Date, the CONTRACTOR shall submit a Schedule of Values, in a form acceptable to the DISTRICT, allocating the Contract Price to various trades, types of work, pieces of equipment, and major tasks to assist the DISTRICT in evaluating the percentage completion for each part of the Work. The CONTRACTOR's overhead and profit shall be uniformly pro-rated over all items in the Schedule of Values. The Schedule of Values shall represent the actual cost of each segment of the work and shall not allocate higher costs, overhead or profit to work items scheduled for early completion. The total sum of the Schedule of Values shall equal the Contract Price. If the DISTRICT objects to the allocation of cost or the level of detail provided, the CONTRACTOR shall revise and resubmit the Schedule of Values. This Schedule of Values, unless objected to by the DISTRICT, shall be used only as a basis for the CONTRACTOR's Applications for Payment. This Schedule of Values shall be so arranged that the value of the Work as it progresses may be readily determined.
- B. **Application for Payment.** The period covered by each Application for Payment shall be one calendar month. Payment shall be based on work completed as of the Application for Payment Date which shall be the last day of the month unless otherwise stated in the Agreement. Within seven (7) days prior to each Application for Payment Date, the CONTRACTOR shall meet with the DISTRICT to review the line item amounts proposed by the CONTRACTOR for payment. When the amounts proposed are acceptable to the DISTRICT, the CONTRACTOR shall prepare and submit within three (3) days, an Application for Payment in a format acceptable to the DISTRICT, along with all required Conditional and Unconditional releases from the CONTRACTOR, each subcontractor, supplier and materialman whose work is included in the Application for Payment, and all other documentation (including, without limitation, certified payroll reports and information) that may be reasonably required by the DISTRICT. The CONTRACTOR shall sign and certify on the Application for Payment, subject to penalty of perjury, the following: "The undersigned CONTRACTOR certifies that to the best of the CONTRACTOR's knowledge, information and belief, the Work covered by this Application for Payment has been completed in accordance with the Contract Documents and that all Work for which previous payments have been received is free and clear of liens, claims, security interests or encumbrances of any kind. The CONTRACTOR further warrants that title to all Work covered by this Application for Payment will pass to the DISTRICT no later than the time of payment."

1. As a condition precedent to payment by the DISTRICT, each itemized Application for Payment shall be accompanied by a current Conditional Waiver and Release On Progress Payment, in the form specified by the applicable California Civil Code, from CONTRACTOR and each of CONTRACTOR's subcontractors, suppliers, and union trust funds for which payment is sought by the Application for Payment, and an Unconditional Waiver and Release On Progress Payment, in the form specified by the applicable California Civil Code, from CONTRACTOR and each of CONTRACTOR's subcontractors, suppliers, and any union trust fund for which payment was sought by CONTRACTOR in the immediately preceding Application for Payment and for which the DISTRICT made payment.
 2. The CONTRACTOR warrants that title to all work materials and equipment covered by an Application for Payment will pass to the DISTRICT, or its assignee, either by incorporation in the construction or upon receipt of payment by the CONTRACTOR, whichever occurs first, free and clear of all liens, stop notices, claims, security interest or encumbrances hereinafter referred to in this section as "liens". CONTRACTOR represents that no work, materials or equipment covered by an Application for Payment will have been acquired by the CONTRACTOR, or by any other person performing work at the Project or furnishing materials and equipment for the Project, subject to an agreement under which an interest or an encumbrance is retained by the seller or otherwise imposed by the CONTRACTOR or such other person.
 3. **Taxes.** The CONTRACTOR shall pay all applicable sales, consumer, use, and similar taxes for the Work provided by the CONTRACTOR and such taxes shall be included in the Contract Price.
 4. **Liability for Employee Payments.** CONTRACTOR accepts full liability and responsibility for the payment of any and all contributions, deductions, or taxes for social security, unemployment insurance, old age and survivor's benefits, medical and health benefits, or for any other purpose now or hereafter imposed under any applicable law measured by the wages, salary or other remuneration paid to persons employed by or on behalf of CONTRACTOR for the Work. CONTRACTOR covenants and agrees to observe and fully comply with all applicable law, including procurement of any necessary occupational licenses, permits and inspection certificates.
- C. **Payment for Items Delivered But Not Installed.** Subject to the consent of the DISTRICT, Applications for Payment may include the percentage of value stipulated in the Agreement for major equipment and custom fabricated items that have been delivered, stored and adequately protected at the site of the Project, and CONTRACTOR acknowledges that payment of such amounts included in any Application for Payment is within the sole discretion of the DISTRICT. As express conditions precedent to payment for stored materials, CONTRACTOR shall provide all documentation required by the DISTRICT to confirm that title to such major equipment and/or custom fabricated items will pass to the DISTRICT upon payment which may include, without limitation, the following:
1. Certificates of insurance, evidence of transfer of title to the DISTRICT, and consent of surety to payment, for stored materials; and

2. Supporting documentation that verifies all amounts requested, such as paid invoices (overhead and profit on stored materials shall not be included in any Application for Payment). Payment will not be made for material stored at the site of the Project that is not custom fabricated. Payment will not be made for items stored off site. Payment will not be made for stored or installed items that are not protected from physical, environmental or other damage.
- D. Within seven (7) days after receipt of the CONTRACTOR's Application for Payment, the DISTRICT will approve the application as submitted or will notify the CONTRACTOR of reasons for withholding a portion of the requested payment. The DISTRICT may withhold any payment in whole or in part to the extent necessary to reasonably protect the DISTRICT, or if it is unable to verify the accuracy of an Application for Payment. If the DISTRICT is unable to verify the accuracy of an Application for Payment, the DISTRICT will notify the CONTRACTOR in writing. If the CONTRACTOR and the DISTRICT cannot agree on a revised amount, the DISTRICT will promptly process payment for those amounts for which it is able to verify. The DISTRICT may also withhold any payment, or portion thereof, to protect the DISTRICT from loss because of known, or subsequently discovered, issues which may include, without limitation, the following:
1. Defective Work not corrected or remedied;
 2. Third party claims filed or reasonable evidence indicating probable filing of such claims, including claims by separate contractors;
 3. Failure of the CONTRACTOR to make payments properly or timely to subcontractors or suppliers for labor, materials or equipment;
 4. Reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Price;
 5. Damage to property, the Work, the DISTRICT, another contractor or a third party, including liquidated damages;
 6. Reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;
 7. Work performed for which submittals are required prior to obtaining Favorable Review of submittals;
 8. Failure to carry out the Work in accordance with the Contract Documents, including, without limitation, failure to make required submittals;
 9. Failure to submit a construction schedule or to update the construction schedule in accordance with the Contract Documents;
 10. Failure to update Record Drawings weekly;

11. Failure to provide all insurance coverages in accordance with the Contract Documents, or to reinstate required insurance coverage that has lapsed;
 12. Non-payment of money owed to the DISTRICT for the extra cost of inspection;
 13. Stop payment notice(s) served upon the DISTRICT;
 14. Failure to submit certified weekly payrolls
 15. Failure or refusal of CONTRACTOR to comply with the requirements and obligations of the Contract Documents; and
 16. Any material breach of the Contract Documents by CONTRACTOR and/or its Subcontractors or suppliers, of any tier, or any other person or entity for which CONTRACTOR bears responsibility.
- E. When the grounds for withholding any amount are removed to the satisfaction of the DISTRICT, in its sole discretion, payment shall be made by the DISTRICT for amounts withheld because of them within ten (10) Days' thereafter. Neither approval of an Application for Payment, delivery or making of a progress payment, nor partial or entire use or occupancy of the Project by the DISTRICT, shall constitute an acceptance of any Work not in accordance with the Contract Documents, nor shall it be deemed a waiver of the DISTRICT of any remedy it may have in law or equity. Should any stop payment notice be filed with the DISTRICT, the DISTRICT shall in accordance with California Civil Code Section 9358, withhold the amount claimed, plus an allowance of an additional 25% to cover its litigation costs plus interest at the rate of 10%, from progress payments until such claims have been resolved pursuant to law.
- F. **Retainage.** Absent an express finding pursuant to Public Contract Code section 7201(b) authorizing the DISTRICT to withhold a higher amount of retention (in excess of five percent (5%) of the estimated value of the work done and the labor, materials, equipment, and services provided), the DISTRICT shall retain an amount from each progress payment not to exceed five percent (5%) of the estimated value of the work done and the labor, materials, equipment, and services provided, all in accordance with Public Contract Code section 7201. This retained amount shall be retained by the DISTRICT until the time of final acceptance of the Work and released in accordance with requirements of the Contract Documents and applicable law. In lieu of the five percent (5%) retainage, the CONTRACTOR may substitute securities as provided for in Public Contract Code Section 22300 and the Contract Documents.
- G. Payments to the CONTRACTOR will be made within the time limits required under applicable law after submission to the DISTRICT of an appropriate Application for Payment, inclusive of all required documentation to substantiate the Application for Payment, and subject to the DISTRICT's regular approval and accounting procedures.
- H. CONTRACTOR, and its subcontractors, shall promptly pay any subcontractor not later than seven (7) calendar days of receipt of each progress payment in accordance with the provision in section 7108.5 of the California Business and Professions Code concerning prompt payment to subcontractors. The CONTRACTOR shall, by an appropriate written subcontract with each Subcontractor, require each Subcontractor to make payments to their sub-subcontractors in similar manner.

- I. **Final Payment.** Thirty five (35) days after the acceptance of the Work by the DISTRICT and recordation by the DISTRICT of a Notice of Completion with the County Recorder, and upon CONTRACTOR providing to the DISTRICT all documents and information required by the Contract Documents including, without limitation, all releases, maintenance guarantees, maintenance manuals and technical specifications, and all other requirements for project completion and closeout as set forth in the Contract Documents having been fully and completely satisfied, the CONTRACTOR shall be entitled to the balance due for the completion and acceptance of the Work, provided that all claims for labor and materials have been paid, and that no Claims shall have been filed with the DISTRICT based upon acts or omissions of the CONTRACTOR and that no stop payment notices have been filed, less sums withheld for liquidated damages, if any, or any other damages incurred by the DISTRICT, or other sums withheld pursuant to the terms of the Contract Documents or as authorized by California law.
 - 1. Final payment will be made in accordance with the Contract Documents and California law, including, without limitation, Public Contract Code Section 7107. Pursuant to Public Contract Code Section 7107, in the event of a dispute between the DISTRICT and CONTRACTOR, the DISTRICT may withhold from the final payment an amount not to exceed 150 percent of the disputed amount. All provisions of the Contract Documents, including without limitation those establishing obligations and procedures, shall remain in full force and effect notwithstanding the making or acceptance of final payment.
- J. **Waiver of Claims.** Subject to the terms of the Contract Documents, the acceptance of final payment shall, after the date of Substantial Completion of the Project, constitute a waiver of all Claims by the CONTRACTOR.
- K. The making of final payment shall not constitute a waiver of any claims or rights by the DISTRICT.

15. TERMINATION

- A. **Termination by the DISTRICT for Cause (Default).** If the CONTRACTOR refuses or fails to prosecute the Work, or any separable part thereof, with such diligence as will ensure its completion within the time specified within the Contract Documents, including any authorized extension thereof; or abandons the Work; or fails to perform the Work, in any manner, as required by the Contract Documents and/or industry standards; or fails to retain a valid Contractor's license of the classification required for the Work; or fails to complete such work within such time as required under the Contract Documents; or seeks to assign the Contract; or, if the CONTRACTOR should be adjudged as bankrupt, or is otherwise deemed insolvent by the DISTRICT based on good cause and is unable to proceed with the Work; or if the CONTRACTOR should make a general assignment for the benefit of creditors; or if a receiver should be appointed on account of insolvency; or if the CONTRACTOR files a petition to take advantage of any debtor's act; or should any Subcontractor materially violate any of the provisions of the Contract Documents; or if the CONTRACTOR should persistently or repeatedly refuse or fail to provide the required project management, supervision, quality control, and/or supply enough properly skilled workers or proper materials to complete the Work in the time specified; or if the CONTRACTOR should fail to make

prompt payment to Subcontractors or suppliers for material or labor; or if the CONTRACTOR should persistently disregard laws or instructions given by the DISTRICT; or if the CONTRACTOR otherwise substantially fails to fulfill its obligations under, or commits a material breach of, or violates, the Contract Documents or any provision or term thereof; the CONTRACTOR shall be default under the Contract Documents. In such instance, the DISTRICT may, in its sole discretion, after providing the CONTRACTOR seven (7) Days' written notice, and without prejudice to any other remedy the DISTRICT may have:

- B. Provide any such labor, equipment, equipment and/or services required to perform the Work or designated portion of the Work or to correct any deficiencies or delays and deduct the cost from any money due or to become due to the CONTRACTOR, or if the money due or to become due to the CONTRACTOR is not sufficient to cover such amount, the CONTRACTOR shall pay the difference immediately to the DISTRICT upon demand; or
- C. Terminate the Contract, in its entirety or in part, effective immediately upon the DISTRICT's delivery to the CONTRACTOR and its Surety(ies) of a notice of termination of the Contract.
- D. Upon receipt of the notice of termination of the Agreement for default, the Surety shall immediately takeover and assume the control of and perform the Work as the successor to the CONTRACTOR and shall immediately assume all rights obligations and liabilities, including Liquidated Damages, that have accrued under the Agreement. The Surety shall maintain the site of the Project and all of its safety controls. If the Surety fails to maintain the site of the Project, the DISTRICT may correct unsafe conditions and charge the Surety for costs incurred. If the Surety assumes the CONTRACTOR's terminated Work, it shall take the CONTRACTOR's place in all respects for that part and shall be paid by the DISTRICT for all work performed by it in accordance with the terms of the Contract Documents. If the Surety assumes the entire Agreement, all money due the CONTRACTOR at the time of its default, if any, shall be payable to the Surety as the work progresses, subject to the terms of the Contract Documents and any applicable bond, less all amounts due to the DISTRICT.
 - 1. Within seven (7) days of its receipt of the notice of termination of the Agreement for default, the Surety shall provide to the DISTRICT a written plan detailing the course of action it intends to take to remedy the default of the CONTRACTOR. The DISTRICT will review and notify the Surety if the plan is satisfactory.
 - 2. If the Surety fails to submit a satisfactory plan or to maintain progress on the plan as accepted by the DISTRICT, or does not otherwise comply fully and completely to the DISTRICT's satisfaction with the terms of the bond and within the time periods stated therein, the DISTRICT may, in its sole discretion, take over the Work and prosecute the same to completion by contractor by any other method it may deem advisable for the account and at the expense of the CONTRACTOR. The Surety and CONTRACTOR shall be liable to the DISTRICT for any excess cost and all other damages and costs incurred by the DISTRICT thereby or to which the DISTRICT is entitled under the Contract Documents or by law, and shall pay the DISTRICT all such amounts within thirty (30) days after the DISTRICT submits an invoice for such amounts. In such an event, the DISTRICT may without liability for so doing, take possession of and utilize such materials,

tools, equipment, supplies and other property belonging to the CONTRACTOR and/or assume assignment of any and all subcontracts for Subcontractors and/or suppliers that may be necessary to complete the Work. For any portion of such Work that the DISTRICT elects to complete by furnishing its own employees, materials, tools, and equipment, the CONTRACTOR and Surety shall compensate the DISTRICT for all costs related thereto. If requested by the DISTRICT, the CONTRACTOR shall demobilize, and shall remove any part or all of the CONTRACTOR's materials, supplies, equipment, tools, and construction equipment and machinery, from the Project site within 7 Days of such request; and if the CONTRACTOR fails to do so, the DISTRICT may remove or store, and after ninety (90) days sell, any of the same at the CONTRACTOR's expense.

3. If a termination for default is asserted by the DISTRICT, and demand made upon Surety by the DISTRICT, Surety shall not tender the CONTRACTOR, or any affiliate thereof, as its completion contractor except as authorized in the bond and subject to the sole discretion of the DISTRICT.
- E. The CONTRACTOR hereby consents to assigning to the DISTRICT and/or the DISTRICT's replacement contractor all subcontracts and other agreements of any and all Subcontractors and/or suppliers that may be necessary to complete the Work in the event of a termination for default (or termination for convenience, as set forth below). The CONTRACTOR agrees to obtain, by way of a subcontract provision, the consent of each and every Subcontractor and/or supplier for such assignment prior to the commencement of each such Subcontractor's and/or supplier's conduct of the Work.
 - F. In the event of such termination for default, the CONTRACTOR will not be entitled to receive any further payment until the entire Work or disputed portion of the Work is completed and accepted by the DISTRICT. Any amounts due to the CONTRACTOR will be based on unit prices or lump sum bid and the quantity of work completed at the time of termination, less damages caused by acts of the CONTRACTOR, including but not limited to, all costs to complete the Work, all costs arising from professional services and attorneys' fees, and all costs incurred to insure or bond the work performed by any completion contractor and Subcontractors utilized to complete the Work. If such costs due to the DISTRICT on behalf of the CONTRACTOR exceed the unpaid balance, the CONTRACTOR or Surety shall pay the difference to the DISTRICT promptly upon demand. On failure of the CONTRACTOR to pay, the Surety shall pay all such amounts on demand by the DISTRICT. Nothing set forth herein shall limit Surety's obligations under the subject bonds or the timing thereof, which shall arise immediately upon the CONTRACTOR's default.
 - G. The CONTRACTOR and the DISTRICT agree that nothing in this Section is intended to create a right of either party to recover attorney fees as prevailing party in any lawsuit on this Contract.
 - H. In addition to all of its rights and remedies stated herein and under the Contract Documents and by law, the DISTRICT may also order the CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the DISTRICT to stop the Work shall not give rise to any duty on the part of the DISTRICT to exercise this right for the benefit of the CONTRACTOR or any other person or entity.

- I. All obligations of the CONTRACTOR pursuant to the Contract Documents shall survive the termination for cause of the Agreement. The provisions of this Section are in addition to, and not in limitation of, any other rights or remedies under law or in equity available to the DISTRICT.
- J. If it is later determined that the DISTRICT's termination of the Agreement for default was wrongful, or the CONTRACTOR had an excusable reason for not performing, such as a fire, flood, or other event which was not the fault of or was beyond the control of the CONTRACTOR, the DISTRICT, after setting up a new performance schedule, may allow the CONTRACTOR to continue work, or treat the termination as a termination for convenience, and the rights and obligations of the DISTRICT and the CONTRACTOR shall be the same as if the termination had been issued for the convenience of the DISTRICT.
- K. **Termination by the DISTRICT for Convenience.** The DISTRICT may terminate the CONTRACTOR's performance under the Agreement for convenience, either in whole or in part, at its sole discretion for any reason, or when conditions encountered during the performance of the Work make it impossible or impracticable to proceed, or when the DISTRICT is prevented from proceeding with the Agreement by act of God, by law, or by official action of a public authority, or upon a determination that such termination is in the best interest and convenience of the DISTRICT, or whenever the DISTRICT is prohibited from completing the Work for any reason.
- L. Upon receipt of a written notice of termination for convenience, the CONTRACTOR shall:
 - 1. Stop work as specified in the written notice;
 - 2. Terminate all orders and subcontractors except as necessary to complete any portion of the Work that is not terminated;
 - 3. If directed in writing by the DISTRICT to do so, assign all right, title and interest in subcontracts and materials in progress, in which case the DISTRICT will have the right at its discretion to settle, or pay any or all claims arising out of the termination of such Subcontractors, but in no event shall recovery by any Contractor include lost profits for uncompleted portions of the Work;
 - 4. Deliver or otherwise make available to the DISTRICT all data, drawings, specifications, reports, estimates, summaries and such other information and material as may have been accumulated by the CONTRACTOR in performing the Work whether completed or in process;
 - 5. Settle outstanding liabilities and claims with the approval of the DISTRICT;
 - 6. Complete performance of such part of the Work as has not been terminated; and
 - 7. Take such other actions as may be necessary, or as may be directed by the DISTRICT for the protection and preservation of the Work and/or property related to the Work.

- M. Upon receipt of the DISTRICT's written notice of termination for convenience, the CONTRACTOR shall submit to the DISTRICT a request for final payment in accordance with the requirements of the Contract. Such request shall be submitted promptly, but no later than sixty (60) days from the effective date of the termination for convenience.
- N. The final payment to the CONTRACTOR after a written termination for convenience shall be limited to the following amounts due and owing under the Contract at time of termination: (1) Any actual costs incurred by the CONTRACTOR for restocking charges; (2) The agreed upon price of protecting the Work in any manner, if any, as directed by the DISTRICT; and (3) The Contract Price allocable to the portion of the Work properly performed or goods supplied by the CONTRACTOR as of the date of termination, as determined in accordance with the Contract Documents, reduced by any sums previously paid to the CONTRACTOR.
1. The above payment shall be the sole and exclusive remedy to which the CONTRACTOR is entitled in the event of a termination for convenience of the Agreement; and the CONTRACTOR will not be entitled to any other compensation or damages and expressly waives same.
 2. The CONTRACTOR shall not be entitled to payment for any work not performed, including, without limitation, overhead and profit on work not performed.
 3. The DISTRICT shall have the right to withhold any portion or the whole of the final payment under this provision in the event there are any outstanding claims or rights asserted by the DISTRICT against the CONTRACTOR, or by any third party against the DISTRICT which arises out of the CONTRACTOR's Work.
 - a. All obligations of the CONTRACTOR pursuant to the Contract Documents shall survive the termination for convenience of the Contract.
 - b. The CONTRACTOR shall include this termination for convenience provision in all subcontracts and purchase orders of every tier, which shall be binding upon all Subcontractors and suppliers, of every tier.
 - c. **Suspension by the DISTRICT for Convenience.** The DISTRICT shall have the authority to suspend or delay the performance of the Work, in whole or in part, for such period for any reason as the DISTRICT may deem necessary. The CONTRACTOR must immediately comply with the DISTRICT's written order to suspend or delay the Work. The suspended or delayed Work can only be resumed upon written direction of the DISTRICT. A suspension or delay of Work as set forth in this Section shall not relieve the CONTRACTOR of its responsibilities as set forth elsewhere in the Contract Documents
 - d. In the event the DISTRICT orders a suspension or delay of the performance of the Work or any portion thereof for any reason the CONTRACTOR shall perform, at an agreed-upon cost with the DISTRICT, all the work necessary to (i) preserve and protect the Work and related facilities and improvements from weather and other environmental conditions during the period of suspension, (ii) repair any damage to the Work and/or related facilities and

improvements occurring before, provide a safe, smooth, and unobstructed passageway through construction for use by public traffic and any other public use during the period of suspension. In the absence of an agreed-upon amount between the DISTRICT and the CONTRACTOR to perform such work, the CONTRACTOR shall proceed to perform as directed by the DISTRICT and the CONTRACTOR may seek an adjustment of the Contract Price, limited to the amount of its direct costs to perform such work, in accordance with this Agreement.

- e. In addition to the suspension or delay of the performance of the Work, in the event the DISTRICT determines in the sole discretion of the DISTRICT that a situation exists where continuation of the Work would be illegal or endanger the health, safety or welfare of persons or property on or affected by the Work, the DISTRICT will have the right to order the CONTRACTOR in writing to delay or suspend the Work in whole or in part for a period of time equal to the period of time while such situation exists. Such order of the DISTRICT shall not otherwise modify or invalidate in any way any of the provisions or requirements of the Contract Documents, and, notwithstanding anything to the contrary in the Contract Documents, the CONTRACTOR shall not be entitled to any damages or compensation from the DISTRICT on account of such delay or suspension.

16. RIGHT TO AUDIT

- A. **Maintenance, Inspection, and Audit of Records.** All books, account, reports, files, correspondence, data and other records relating to this Contract as described in this Article shall be maintained by the CONTRACTOR, its Subcontractors and material suppliers, and shall be subject at all reasonable times to review, inspection, and audit by the DISTRICT, and their agents, upon the request of the DISTRICT, in its sole discretion, and at all times during performance of the Work and for a period of five (5) years after Final Completion of the Work.
- B. **Accounting System.** Contactor shall exercise such controls as may be necessary for proper financial management of the Work. Such accounting and control systems shall comply with prevailing custom and practice for similar projects, be satisfactory to the DISTRICT and shall include preservation of records for a period of five (5) years after Final Completion, or for such longer period as may be required by Laws and Regulations.
- C. **Books and Records.** The CONTRACTOR shall keep, and shall require all Subcontractors and suppliers, of every tier, to keep, full and detailed books, records, information, materials and data, of every kind and character (hard copy, as well as computer readable data), that pertain to the performance of the Work or the Contract, and any matters, rights, duties or obligations relating to the Work or the Contract, including, without limitation, agreements, purchase orders, leases, contracts, commitments, arrangements, notes, change orders, change order requests, estimates, field orders, schedules, diaries, logs, reports, shop drawings, samples, exemplars, drawings, specifications, invoices, delivery tickets, receipts, vouchers, canceled checks, memoranda; accounting records; job cost reports; job cost files (including complete documentation of negotiated settlements); back charges; general ledgers; documentation of cash and trade discounts earned; insurance rebates and dividends

and other documents relating in any way to any claims, charges or time extensions asserted by the CONTRACTOR of any of the subcontractors.

- D. **Inspection and Copying.** The CONTRACTOR, its Subcontractors and suppliers shall allow the DISTRICT, and its authorized representative(s), auditors, attorneys and accountants, upon twenty-four (24) hour notice to the CONTRACTOR, full access to inspect and copy all such books and records identified in this Article at a location as designated by the DISTRICT.
- E. **Noncompliance by the CONTRACTOR.** The CONTRACTOR's compliance with any audit requested pursuant to this Article shall be a condition precedent to maintenance of any judicial or extra-judicial action arising from the Contract Documents. In addition to and without limitation upon the DISTRICT's other rights and remedies for breach, including any other provisions for withholding as set forth in the Contract Documents, the DISTRICT shall have the right, exercised in its sole discretion, to withhold from any payment to the CONTRACTOR due under each current Application for Payment an additional sum of up to ten percent (10%) of the total amount set forth in such Application for Payment, until the CONTRACTOR and the subcontractors have complied with any outstanding and unsatisfied audit request by the DISTRICT under this Article. Upon compliance with this Article, any such monies withheld shall be released to the CONTRACTOR.
- F. **Enforcement by the DISTRICT.** The CONTRACTOR agrees that any failure by the CONTRACTOR, or any Subcontractor or supplier, to provide access to books and records as required by this Article shall be specifically enforceable by issuance of a preliminary and/or permanent mandatory injunction by a court of competent jurisdiction based on affidavits submitted to such court and without the necessity of oral testimony, to compel the CONTRACTOR, Subcontractors or suppliers to permit access, inspection, audit and/or reproduction of such records or the require delivery of such records to the DISTRICT for inspection, audit and/or reproduction. The CONTRACTOR shall expressly incorporate and make the requirements of this Agreement applicable to and binding upon all subcontracts, of any tier, and purchase orders in excess of \$25,000, at any tier. The CONTRACTOR shall also require that the audit provisions pursuant to this Agreement be included in all agreements, contracts or subcontracts in excess of \$25,000 entered into by Subcontractors and suppliers, of any tier.

17. FAILURE TO ACT NOT A WAIVER OF RIGHTS

Except as expressly provided in the Contract Documents, no action or failure to act by the DISTRICT, shall constitute a waiver of any right afforded or duty imposed under the Contract Documents. No such action or failure to act shall constitute approval of or acquiescence in failure to perform in accordance with the Contract Documents.

18. RIGHTS AND REMEDIES

Duties, obligations, rights and remedies prescribed by the Contract Documents shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed by or available under law.

19. LAWS AND REGULATIONS

The CONTRACTOR shall give all notices and comply with all laws, ordinances, rules and regulations relating to the Project. If the CONTRACTOR observes that the Drawings and Specifications are at variance therewith, they shall promptly notify the DISTRICT in writing, and any necessary changes shall be adjusted as provided in the Agreement for changes in the work. If the CONTRACTOR performs any work contrary to such laws, ordinances, rules and regulations, and without written notice to the DISTRICT, they shall bear all costs arising therefrom and shall not be paid by the DISTRICT for performing such work.

20. CUSTOMER RELATIONS

The CONTRACTOR agrees that its personnel and equipment shall at all times present a neat appearance; all work shall be done, all contacts with customers and all complaints handled with due regard for the DISTRICT's public relations. The CONTRACTOR agrees that complaints of any nature received from the public or from public authorities shall receive immediate attention. All complaints and any action taken by CONTRACTOR with respect to such complaints shall be reported to the DISTRICT.

21. NOTICES

Any and all notices or other matters required or permitted by this Agreement or by law to be served on, given to, or delivered to either party hereto by the other party to this Agreement shall be in writing and shall be deemed duly served, given, or delivered when personally delivered to the party to whom it is addressed or in lieu of such personal service, five (5) days after deposited in the United States mail, first-class postage paid, addressed to the DISTRICT at 11570 Donner Pass Road, Truckee, California 96161, or to the CONTRACTOR at _____.

Either party, the DISTRICT or the CONTRACTOR, may change its address for the purpose of this section by giving written notice of such change to the other party in the manner provided in this section.

22. ATTORNEYS', EXPERTS' AND CONSULTANTS' FEES

In the event of any litigation concerning any controversy, claim or dispute between the parties hereto, arising out of or relating to this Agreement or the breach hereof, or the interpretation hereof, the prevailing party shall be entitled to recover from the losing party reasonable expenses, attorneys' fees, experts' fees, and consultants' fees, and costs incurred therein or in the enforcement or collection of any judgment or award rendered therein.

23. CAPTIONS

The captions and headings of the different sections of this Agreement are inserted for convenience of reference only and are not to be taken as part of this Agreement or to control or affect the meaning, construction, or effect of the same.

24. NECESSARY ACTS

Each party to this Agreement agrees to perform any further acts and execute and deliver any further documents that may be reasonably necessary to carry out the provisions of this Agreement.

25. ASSIGNMENT

Neither party may assign this Agreement, or payments due under the Agreement, without the written consent of the other party.

26. GOVERNING LAW

This Agreement shall be construed in accordance with, and governed by, the laws of the State of California.

27. FORUM

This Agreement and the Contract Documents shall be deemed to have been entered into in the County of Nevada, State of California, and governed by California law. By entering into this Agreement, the CONTRACTOR, on behalf of itself and its Surety(ies), consents and submits to the jurisdiction of Courts of the State of California, County of Nevada, over any action of law, suit in equity, and/or other proceeding that may arise out of the Contract Documents, and expressly waive the removal provisions of California Code of Civil Procedure Section 394.

28. SOLE AND ONLY AGREEMENT

This Agreement, including any exhibits attached hereto, constitutes the sole and only Agreement of the parties hereto relating to the Project and correctly sets forth the rights, duties and obligations of each to the other as of its date. Any prior agreements, promises, negotiations, or representations not expressly set forth in this Agreement are of no force and effect.

29. DISTRICT POWERS

Nothing herein contained shall be deemed to limit, restrict or modify any right, duty or obligation given, granted, or imposed upon the DISTRICT by the laws of the State of California now in effect, or hereafter adopted, nor to limit or restrict the power or authority of the DISTRICT.

30. SEVERABILITY

In the event that any part or provision of this Agreement is found to be illegal or unconstitutional by a court of competent jurisdiction, such findings shall not affect the remaining parts, portions, or provisions of this Agreement.

31. ASSIGNMENTS OF RIGHTS

The CONTRACTOR agrees to assign to the DISTRICT all rights, title, and interest in and to all causes of action it may have 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, services, or materials pursuant to the Agreement and that such assignments shall be made and become effective at the time the DISTRICT tenders final payment to the CONTRACTOR, without further acknowledgement by the parties.

32. WORKMANSHIP

All work shall be done and completed in a thorough workmanlike manner notwithstanding any omission from these specifications or from the Drawings, and it shall be the duty of the CONTRACTOR to call the DISTRICT's attention to apparent errors or omissions and request instructions before proceeding with the work. The DISTRICT may, by appropriate instructions, correct errors, and omissions, which instructions shall be as binding upon the CONTRACTOR as though contained in the original Contract Documents

33. CHARACTER OF WORKPERSONS

Whenever, in the opinion of the DISTRICT, any superintendent, foreman, or workman employed by the CONTRACTOR or their subcontractors is disrespectful, intemperate, disorderly, or otherwise objectionable, they shall, at the written request of the DISTRICT, be removed and not again be employed on the worksite without the written consent of the DISTRICT.

34. CONDITION OF WORKSITE AND EQUIPMENT

- A. The CONTRACTOR at all times shall keep the Project site free from debris such as waste, rubbish, and excess materials and equipment. The CONTRACTOR shall use equipment that is in good working order and remove inoperable equipment. CONTRACTOR shall not store debris under, in, or about the premises. Upon completion of Work, the CONTRACTOR shall remove temporary fencing, barricades, planking, construction toilet and similar temporary facilities from site. The CONTRACTOR shall also clean all buildings, asphalt and concrete areas to the degree necessary to remove oil, grease, fuel, or other stains caused by CONTRACTOR operations or equipment.
- B. The CONTRACTOR shall fully clean up the Project site at the completion of the Work or such other time(s) as DISTRICT may reasonably request, in their sole discretion. If the CONTRACTOR fails to fully clean the Project site, at any time, to the satisfaction of the DISTRICT, the DISTRICT may do so and the cost of such clean up shall be back charged back to the CONTRACTOR.

35. CONTRACTOR'S REPRESENTATIVE AND EMERGENCIES

- A. The CONTRACTOR shall, at all times during working hours, be represented in all matters pertaining to this project by one, and only one, fully competent and experienced general superintendent. Instructions and information given by the DISTRICT to the CONTRACTOR's superintendent on the work shall be considered as having been given to the CONTRACTOR. Before any work is done at the job site, the CONTRACTOR shall give written notice to the DISTRICT stating who the CONTRACTOR's superintendent will be, giving a telephone number at which they can always be reached day or evening. The DISTRICT shall be informed in writing prior to

any change. A statement naming more than one representative at a time to be in charge and depending upon which is present at the time will not be acceptable.

- B. Emergencies may arise during the progress of the WORK which may require special effort or require extra shifts of workers to continue the WORK beyond normal working hours. The CONTRACTOR shall be prepared in case of such emergencies from whatever cause, to do all necessary work promptly.

36. WORK INVOLVING TRENCHING OR EXCAVATION

For any work which involves digging trenches or other excavations that extend deeper than four feet below the surface, the CONTRACTOR shall promptly, and before the following conditions are disturbed, notify the DISTRICT, in writing, of any: (1) Material that the CONTRACTOR believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law; (2) Subsurface or latent physical conditions at the site differing from those indicated; or (3) Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract. The DISTRICT shall promptly investigate the conditions, and if it finds that the conditions do so materially differ, or do involve hazardous waste, or cause a decrease or increase in the CONTRACTOR's cost of, or time required for, performance of any part of the work shall issue a change order according the procedure described in this Agreement. In the event a dispute arises between the DISTRICT and the CONTRACTOR whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the cost of, or performance of any part of the work, the CONTRACTOR shall not be excused from any scheduled completion date provided by this Agreement, but shall proceed with all work to be performed under this Agreement. The CONTRACTOR shall retain any and all rights provided either by this contract or by law which pertain to resolution of disputes and protests between contracting parties.

37. RESPONSIBILITIES OF DISTRICT

- A. The DISTRICT shall assume the responsibility, between the parties to this Agreement, for the timely removal, relocation, or protection of existing main or trunkline utility facilities located on the site of any construction project that is a subject of this Agreement, if such utilities are not identified by the DISTRICT in the drawings and specifications. The CONTRACTOR shall be compensated for the costs of locating such utility facilities, repairing damage not due to the failure of the CONTRACTOR to exercise reasonable care, removing or relocating such utility facilities not indicated in the drawings and specifications with reasonable accuracy, and for equipment on the project necessarily idled during such work, and the CONTRACTOR shall not be assessed liquidated damages for delay in completion of the Project, when such delay was caused by the failure of the DISTRICT or the owner of the utility to provide for removal or relocation of such utility facilities.
- B. Nothing herein shall be deemed to require the DISTRICT to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the site of the construction project can be inferred from the presence of other visible facilities, such as buildings, meter and junction boxes, on or adjacent to the site of the

construction; provided, however, nothing herein shall relieve the DISTRICT from identifying main or trunklines in the drawings and specifications.

- C. Nothing herein shall preclude the DISTRICT from pursuing any appropriate remedy against the utility for delays which are the responsibility of the utility. Nothing herein shall be construed to relieve the utility from any obligation as required whether by law or by contract to pay the cost of removal or relocation of existing utility facilities.
- D. If the CONTRACTOR, while performing the Contract discovers utility facilities not identified by the DISTRICT in the Contract Drawings or Specifications, the CONTRACTOR shall immediately notify the DISTRICT and utility in writing.
- E. The DISTRICT, where it is the owner, shall have the sole discretion to perform repairs or relocation work or permit the CONTRACTOR to do such repairs or relocation work at a reasonable price.

38. NECESSARY TIME

The CONTRACTOR agrees to devote the time necessary to perform the services set forth in this Agreement in an efficient and effective manner. The CONTRACTOR may represent, perform services for and be employed by additional individuals or entities, in the CONTRACTOR's sole discretion, as long as the performance of these extra-contractual services does not interfere with or present a conflict with the DISTRICT's business.

39. NO ASSIGNMENT

No assignment by the CONTRACTOR of any rights under or interests in the Agreement will be binding on the DISTRICT without the advance written consent of the DISTRICT; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the CONTRACTOR from any duty or responsibility under the Contract Documents.

40. BOUND TO CONTRACT DOCUMENTS

The CONTRACTOR binds itself, and its partners, successors, sureties, assigns, and legal representatives to the DISTRICT, its partners, successors, assigns, and legal representatives, in respect to all covenants, agreements, and obligations contained in the Contract Documents.

41. UNENFORCEABLE PROVISION

Any provision or part of the Contract Documents held to be void or unenforceable under any law or regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon the DISTRICT and the CONTRACTOR, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

42. RULES AD REGULATIONS

The CONTRACTOR acknowledges that the Project is or may be subject to requirements and regulations issued on behalf of various governmental and/or regulatory bodies. The CONTRACTOR agrees, on behalf of itself and its subcontractors, of any tier, to fully and promptly comply with any and all requirements and regulations issued on behalf of such entities.

43. ENTIRE AGREEMENT

This Agreement, inclusive of all Contract Documents, represents the entire agreement of the Parties concerning the subject matter hereof, and supersedes all prior negotiations, representations, or agreements of the parties, whether written or oral, with respect to such subject matter.

44. SURVIVAL OF TERMS

Any indemnity, warranty or guarantee given by the CONTRACTOR to the DISTRICT under this Agreement shall survive the expiration or termination of the Agreement and shall be binding upon the CONTRACTOR and their subcontractors and suppliers until any action is barred according to terms in the Agreement or by the applicable statute of limitations or statute of repose. All obligations of the CONTRACTOR under this Contract shall survive the expiration or termination of this Contract.

TRUCKEE DONNER PUBLIC UTILITY DISTRICT

By: _____

Name: _____

Title: _____

(Seal)

Attest: _____

Name: _____

Title: _____

CONTRACTOR

By: _____

Name: _____

Title: _____

(Seal)

Attest: _____

Name: _____

Title: _____

END OF SECTION 00500

SECTION 00600 – PERFORMANCE BOND

This Construction Performance Bond ("Bond"), dated _____ is in the penal sum of _____, and is entered into by and between the parties listed below to ensure the faithful performance of the Construction Contract identified below. This Bond consists of this page and the Bond Terms and Conditions, Paragraphs 1 through 14, attached hereto. Any singular reference to _____ ("Contractor"), ("Surety"), the Truckee Donner Public Utility District ("DISTRICT") or other party shall be considered plural where applicable.

CONTRACTOR:

SURETY:

Name

Name

Address

Principal Place of Business and Address

Truckee Donner Public Utility District
11570 Donner Pass Road
Truckee, California 96161

CONSTRUCTION CONTRACT:
Donner Trails Tank No. 2
Interior Coating Rehabilitation

Attn: Contract Administrator

DATED _____, 20____,

in the amount of \$ _____.

IN WITNESS THEREOF, the above bounden parties have executed this instrument under their seals this _____ day of _____, 20__, the name and corporate seal of each corporate party being hereto affixed, and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

CONTRACTOR AS PRINCIPAL
Company: (Corp. Seal)

SURETY
Company: (Corp. Seal)

Signature:

Signature:

Name and Title:

Name and Title:

Address

Address

If CONTRACTOR is a partnership, all partners must execute BOND.

PERFORMANCE BOND TERMS AND CONDITIONS

1. The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the DISTRICT for the complete and proper performance of the Construction Contract, which is incorporated herein by reference.
2. If the Contractor completely and properly performs all of its obligations under the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond.
3. The Surety's obligation under this Bond shall arise after the DISTRICT has declared a Contractor Default under the Construction Contract pursuant to the terms of the Construction Contract. Upon declaring the Contractor in default, the DISTRICT shall agree to make the undisputed Balance of the Contract Sum available to the Surety for completion of the work on the Project under the Construction Contract.
4. When the DISTRICT has satisfied the conditions of Paragraph 3, the Surety shall promptly, and in no event later than seven (7) working days after receipt of any notice of default, and at the Surety's sole expense, confirm in writing as to its election to take one of the following actions:
 - A. Arrange for the Contractor, with consent of the DISTRICT, to perform and complete the Construction Contract (but the DISTRICT may withhold consent in its sole discretion (with or without cause), in which case the Surety must immediately elect option 4B, 4C or 4D, below), and that such performance shall commence within an additional thirty (30) calendar days; or
 - B. Undertake to perform and complete the Construction Contract itself, through its agents or through independent contractors (other than the Contractor), and that such performance shall commence within an additional thirty (30) calendar days; or
 - C. As promptly as reasonably possible, obtain bids from qualified, responsible contractors (other than the Contractor) acceptable to the DISTRICT for a contract for performance and completion of the Construction Contract, and, upon determination by the DISTRICT that the contractor selected with the DISTRICT's concurrence is responsible, and subject to full compliance with all applicable laws as may be required (including, without limitation, any applicable competitive bidding and public contracting and procurement requirements pursuant to California and/or Federal laws, if applicable), arrange for a contract to be prepared for execution by the DISTRICT and the contractor selected with the DISTRICT's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract and subject to the consent of the DISTRICT; and, if the Surety's obligations defined in Paragraph 6 exceed the Balance of the Contract Sum, then the Surety shall pay to DISTRICT the amount of such excess; or
 - D. Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and subject to its investigation and consultation with the DISTRICT, determine in good faith the amount for which it may then be liable to the DISTRICT under Paragraph 6 for the performance and completion of the Construction Contract and, within ten (10) additional calendar days, tender payment therefor to the DISTRICT

with full explanation of the payment's calculation. If the DISTRICT accepts the Surety's tender under this paragraph 4(D), the Surety shall remain liable for future damages, then unknown or unliquidated, and including, without limitation, additional costs incurred to complete the Construction Contract and any unsatisfied liquidated damages, resulting from the Contractor Default. If the DISTRICT disputes the amount of Surety's tender under this paragraph 4(D), the DISTRICT may exercise all remedies available to it at law to enforce the Surety's liability under paragraph 6.

5. If the Surety does not proceed as provided in Paragraph 4, then the Surety shall be deemed to be in default on this Bond ten (10) calendar days after receipt of an additional written notice from the DISTRICT to the Surety demanding that the Surety perform its obligations under this Bond. At all times the DISTRICT shall be entitled to enforce any remedy available to the DISTRICT at law or under the Construction Contract including, without limitation, and by way of example only, rights to perform work, protect work, mitigate damages, or coordinate work with other consultants or contractors.
6. The Surety's monetary obligations under this Bond are commensurate with the obligations of the Contractor under the Construction Contract. The Surety's obligations shall include, but are not limited to:
 - A. The responsibilities of the Contractor under the Construction Contract for completion of the Construction Contract and correction of defective, deficient and/or non-compliant work;
 - B. The responsibilities of the Contractor under the Construction Contract to pay liquidated damages, and for damages for which no liquidated damages are specified in the Construction Contract, actual damages, and all damages caused by non-performance or lack of proper performance of the Construction Contract, including but not limited to, all valid and proper back charges, offsets, payments, indemnities, and/or other damages;
 - C. Additional administrative, management, legal, design professional and delay costs resulting from the Contractor Default or resulting from the actions or failure to act of the Surety under Paragraph 4.
7. No right of action shall accrue on this Bond to any person or entity other than the DISTRICT or its heirs, executors, administrators, or successors.
8. The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project to be performed thereunder shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project and the provisions of Section 2819 and 2845 of the California Civil Code. Without limiting the foregoing, such changes, extensions of time and alterations or additions shall include, but are not limited to, changes or alterations to the Contract Documents (including, without limitation, an increase in the Contract Price), extensions of Contract Time, or modifications of the time, terms, or conditions of payment to the Contractor. No extension of time, change, alteration, modification, deletion, or addition to the Contract Documents, or of the work required thereunder, shall release or exonerate Surety on this Bond or in any way affect the obligations of Surety on this Bond.

9. Any proceeding, legal or equitable, under this Bond shall be instituted in the Superior Court for the County of Nevada.
10. As a part of the obligation secured under this Bond, and in addition to the face amount specified therefore, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees and expert costs, incurred by the DISTRICT in successfully enforcing any obligation arising under this Bond, all to be taxed as costs and included in any judgment rendered.
11. Notice to the Surety, the DISTRICT or the Contractor shall be mailed or delivered to the address(es) shown on the signature page.
12. Any provision in this Bond conflicting with any statutory or regulatory requirement shall be deemed deleted here from and provisions conforming to such statutory requirement shall be deemed incorporated herein.
13. The obligations of Surety hereunder shall continue so long as any obligation of Contractor remains, including any warranty and guarantee obligations. Nothing herein shall limit the DISTRICT's rights or the Contractor or Surety's obligations under the Contract Documents, law or equity, including, but not limited to, California Code of Civil Procedure Section 337.1 or 337.15.
14. Definitions:
 - A. Balance of the Contract Sum: The total amount payable by the DISTRICT to the Contractor pursuant to the terms of the Construction Contract after all proper adjustments have been made under the Construction Contract, for example, deductions for progress payments made, and increases/decreases for approved modifications to the Construction Contract.
 - B. Construction Contract: The Agreement between the DISTRICT and the Contractor identified on the signature page, including all Contract Documents and changes thereto.
 - C. Contractor Default: Material failure of the Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Construction Contract.

NOTE TO SURETY:

The following form of acknowledgement should be used. If any other form of acknowledgement is used, there must be submitted a certified copy of unrevoked resolution of authority for the attorney-in-fact.

SURETY COMPANY ATTORNEY-IN-FACT
STATE OF CALIFORNIA)
COUNTY OF _____) ss.
)

On _____, before me, the undersigned, a Notary Public in and for the State, personally appeared _____, known to me to be the duly authorized Attorney-in-Fact of the corporate Surety named in the within instrument, known to me to be authorized to execute that instrument on behalf of said corporation, known to me to be the person whose name is subscribed to such instrument as the Attorney-in-Fact of said corporation, and acknowledged to me that he (she) subscribed the name of said corporation thereto as Surety, and his (her) own name as Attorney-in-Fact and that said corporation executed the same.

WITNESS MY HAND AND OFFICIAL SEAL:
(SEAL)

Notary Public for the State of California.

Acknowledgement by Attorney-in-Fact must be attached.
Corporate seals of Principal and Surety must be attached.

(Place Seal Above or Enclose on Separate Paper if more space is required)

END OF SECTION 00600

SECTION 00610 – PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS that the Truckee Donner Public Utility District ("District"), by its order made on _____, 2026, has awarded to

_____, hereinafter designated as the "Principal," a contract for the construction of the public work of improvement known as the Donner Trails Tank No. 2 Interior Coating Rehabilitation.

NOW, THEREFORE, we the Principal and _____

("Surety"), are held and firmly bound unto the District in the penal sum of _____

_____ Dollars (\$_____), lawful money of the United States of America for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if said Principal, his/her or its heirs, executors, administrators, successors or assigns, shall fail to pay any of the persons named in Section 9100 of the Civil Code, or amounts due under the Unemployment Insurance Code with respect to work or labor performed by any such claimant, any prevailing wages due and penalties incurred pursuant to the California Labor Code or for any amounts required to be deducted, withheld, and paid over to the Franchise Tax Board from the wages of employees of the Contractor and their subcontractors pursuant to Section 18806 of the Revenue and Taxation Code with respect to such work and labor as required by Sections 9550 et seq. of the Civil Code of California, then said Surety will pay for the same, in or to an amount not exceeding the amount set forth herein, and also will pay in case suit is brought upon this bond, such reasonable attorney's fees, as shall be fixed by the court, awarded and taxed as in the above mentioned statutes provided.

AND, the Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the Contract Document accompanying the same shall in any wise affect its obligations on this bond, and Surety does hereby waive the provisions of California Civil Code Section 2819 concerning any such consent to change, extension of time, alteration or addition to the terms of the contract, or to the work, or to the Contract Documents, or notice of the same.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument under their

seals this _____ day of _____, 2026, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Attestation on next page.

ATTEST:

Principal Secretary

(SEAL)

Principal

By _____ (s)

Witness as to Principal

(Address)

(Address)

(Surety)

ATTEST:

(Witness to Surety)

(Attorney-in-Fact)

(Address)

(Address)

If CONTRACTOR is a partnership, all partners must execute BOND.

END OF SECTION 00610

SECTION 00800 – SPECIAL PROVISIONS

1. DEFINITIONS AND TERMS

These definitions are supplemental to those defined elsewhere in the Contract Documents. Whenever in the Contract Documents the following terms are used, the intent and meaning shall be interpreted as follows:

- 1.1 **ADDENDA** - Written or graphic instruments issued prior to the execution of the Agreement which modify or interpret the Contract Documents, drawings and specifications, by additions, deletions, clarifications or corrections.
- 1.2 **AGREEMENT** - The written contract between the DISTRICT and the CONTRACTOR covering the WORK to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.
- 1.3 **BID** - The offer or Bid of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
- 1.4 **BIDDER** - Any person, firm or corporation submitting a Bid for the Work.
- 1.5 **BONDS** - Bid Bond, Performance Bond and Payment Bond and other instruments of security, furnished by the CONTRACTOR and its surety in accordance with the Contract Documents.
- 1.6 **CALENDAR DAY** - Any day shown on the calendar.
- 1.7 **CHANGE ORDER** - A document signed by the CONTRACTOR and the DISTRICT authorizing an addition, deletion or revision in the WORK and, if warranted, an adjustment in the Contract Price or the Contract Time, or terms and conditions of the Contract Documents, issued on or after the Effective Date of the Agreement.
- 1.8 **CONTRACT DOCUMENTS** - All items of the contract as defined in the Agreement.
- 1.9 **CONTRACT PRICE** - The total monies payable to the CONTRACTOR under the terms and conditions of the Contract Document.
- 1.10 **CONTRACT TIME** - The number of calendar days stated in the contract documents for the completion of the WORK
- 1.11 **DISTRICT** – The Truckee Donner Public Utility District, along with its authorized agents and representatives, including but not limited to managers, Project Manager, inspectors, engineers and consultants.
- 1.12 **DRAWINGS** – The part of the Contract Documents which show the characteristics and scope of the work to be performed and which have been prepared or approved by the DISTRICT.

- 1.13 FIELD ORDER - A written order effecting a change in the Work not involving an adjustment in the Contract Price or an extension of the Contract Time, issued by the DISTRICT to the CONTRACTOR during construction.
- 1.14 INSPECTOR - An authorized representative of the DISTRICT assigned to make any or all inspections of the work performed by the CONTRACTOR.
- 1.15 LABORATORY - A laboratory qualified to perform tests specified herein or other special laboratory designated by the DISTRICT or selected by the CONTRACTOR and approved by the DISTRICT.
- 1.16 NOTICE OF AWARD - The written notice of the acceptance of the Bid from the DISTRICT to the successful Bidder.
- 1.17 NOTICE TO PROCEED - The written notice given by the DISTRICT to the CONTRACTOR fixing the date on which the Contract Time will commence to run and on which the CONTRACTOR shall start to perform the CONTRACTOR's obligations under the Contract Documents.
- 1.18 OTHER AGENCIES - Any legal entity of the State of California, or any utility district or company (county, town, electric company, telephone company, water district, sewer district, etc.) that has any interest or control in construction or construction inspection, or are performing other work within or adjacent to the Project area.
- 1.19 SHOP DRAWINGS – All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the CONTRACTOR, a Subcontractor, manufacturer, supplier, or distributor, which illustrate how specific portions of the work shall be fabricated or installed.
- 1.20 SPECIFICATIONS – A part of the Contract Documents consisting of written descriptions of a technical nature of materials, equipment construction systems, standards and workmanship; also referred to as the Technical Specifications.
- 1.21 STANDARD SPECIFICATIONS - Whenever reference is made to the "Standard Specifications" such reference shall be made to those certain specifications entitled "State of California, Department of Transportation, Standard Specifications," latest edition, certain portions of which are made a part hereof by specific reference thereto.
- 1.22 Whenever the following underlined terms are used in the Standard Specifications, or in any of the Contract Documents or instruments governed by the Standard Specifications, they shall be defined as follows:

State: The DISTRICT.

Public Works Building: Office of the DISTRICT.

Department of Public Works: The DISTRICT.

Director of Public Works: The DISTRICT.

State Highway Engineer: The DISTRICT.

Engineer: The Engineer retained by the DISTRICT or authorized representative of the DISTRICT, acting either directly or through properly authorized agents, such agents acting within the scope of the particular duties delegated to them.

Laboratory: The established laboratory of the Materials and Research Department of the Department of Transportation of the State of California or laboratories authorized by the DISTRICT to test materials and work involved in the contract.

Reference is made to Section 1 of the Standard Specifications for other pertinent definitions.

- 1.23 SUBCONTRACTOR - An individual, firm, or corporation having a direct contract with the CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.
- 1.24 STANDARD PLANS - Whenever reference is made to the "Standard Plans" such reference shall be made to those certain plans entitled "State of California, Department of Transportation, Standard Plans," latest edition, certain portions of which are made a part hereof by specific reference thereto.
- 1.25 SUBSTANTIAL COMPLETION - That date as certified by the DISTRICT when the construction of the Project or a specified part thereof is sufficiently completed, in accordance with the Contract Documents, so that the project or specified part can be utilized for the purposes for which it is intended.
- 1.26 SUPPLIER - Any person or organization who supplies materials or equipment for the Work, including that fabricated to a special design, but who does not perform labor at the site.
- 1.27 WORK - The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work includes and is the result of performing or furnishing labor and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all as required by the Contract Documents
- 1.28 WORKING DAY - Any calendar day, except as noted below on which weather or ground conditions do not prevent utilization of at least fifty percent of the usual daily man hours during regular working hours.
- 1.29 WORK PACKAGE - Information consisting of, but not limited to, cover sheet and map, instruction per work location, material summary, construction sketch and pole type(s) provided as part of a Work Package.
- 1.30 WRITTEN NOTICE - Any notice to any party of the Agreement relative to any part of this Agreement in writing and considered delivered and the service thereof completed, when posted as described in Section 00500 - Agreement to the said party at his last given address, or delivered in person to said party or his authorized representative on the work.

2. INVESTIGATION OF SITE AND CONDITIONS

The CONTRACTOR's attention is directed to the possible existence of pole lines, power lines, pipe lines, buildings, structures, and other public or private improvements which may be within the limits of the work or adjacent thereto.

It shall be the responsibility of the CONTRACTOR to ascertain the exact location of all utility lines, surface or sub-surface installations or facilities, and no additional compensation will be paid because of any such installation or facilities encountered along the line of work, or for any delays caused by the location or replacement thereof. It shall be the responsibility of the CONTRACTOR to maintain all lines and utilities, and any other surface or sub-surface structure or installation of any nature that may be affected by the work. The CONTRACTOR is responsible for the protection of any loss of such utilities, facilities, or installations, and for any damage to any of the same, all of which such damage shall be repaired or replaced at the cost of the CONTRACTOR, and to the satisfaction of the DISTRICT of such facility or installation.

The CONTRACTOR shall be compensated for the costs of locating, repairing damage not due to failure of the CONTRACTOR to exercise reasonable care, and removing or relocating existing main or trunkline utility facilities located on the Project site that are not the subject of the Agreement, which are not indicated in the Drawings and Specifications with reasonable accuracy, and for equipment on the project necessarily idled during such work. The CONTRACTOR shall not be assessed liquidated damages for delay in completion of the Project, when such delay was caused by the failure of the DISTRICT or the owner of the utility to provide for removal or relocation of such utility facilities. If the CONTRACTOR, while performing the Agreement, discovers utility facilities not identified by the DISTRICT in the Drawings and Specifications, he or she shall immediately notify the DISTRICT and utility in writing. Where the DISTRICT is the owner of the facility, it shall have the sole discretion to perform repairs or relocation work or permit the CONTRACTOR to do such repairs or relocation as Extra Work.

3. SCHEDULES, REPORTS, AND RECORDS

- A. The CONTRACTOR shall submit to the DISTRICT such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, records, and other data where applicable as are required by the Contract Documents for the work to be performed.
- B. Prior to the first partial payment estimate the CONTRACTOR shall submit construction progress schedules showing the order in which it propose to carry on the work, including dates at which they will start the various parts of the Work, and estimated date of completion of each part. The constructions schedule shall indicate the time of starting and completion of each major structure or phase of the Project and such intermediate phases as will serve for well-defined control points. It shall also indicate the anticipated date of receipt of major items of equipment, and all items of equipment receipt and installation of which is critical to the scheduled progress of the Project.

The construction schedule. When approved, shall not be changed without written consent of the DISTRICT. The CONTRACTOR shall assume the full responsibility for performing the Work in an orderly manner under the provisions of the Agreement.

If, in the opinion of the DISTRICT, the CONTRACTOR has fallen behind the approved progress schedule, the CONTRACTOR shall take such steps as may be required by the DISTRICT, including, but not limited to, increasing the number of personnel, shifts, and/or overtime operations, days of work, and/or the amount of construction equipment until such time as the work is back on schedule. They shall also submit for approval no later than the time of submittal of the next request for partial payment, such supplementary schedule or schedules as may be deemed necessary to demonstrate the manner in which the approved rate of progress will be regained, all without additional cost to the DISTRICT.

4. SHOP DRAWINGS

- A. The CONTRACTOR shall provide shop drawings as may be necessary for the prosecution of the Work, and as required by the technical specifications. The DISTRICT shall promptly review all shop drawings. The DISTRICT's review of any shop drawing shall not release the CONTRACTOR from responsibility for deviations from the Contract Documents. The review of any shop drawings which substantially deviate from the requirements of the Contract Documents shall be evidenced by a Change Order.
- B. When submitted for the DISTRICT's review, shop drawings shall bear the CONTRACTOR's certification that they have reviewed, checked, and approved the shop drawings and that they are in conformance with the requirements of the Contract Documents.
- C. Portions of the Work requiring shop drawing or sample submittals shall not begin until the shop drawing or submission has been reviewed by the DISTRICT. A copy of each reviewed shop drawing and each reviewed sample shall be kept in good order by the CONTRACTOR at the site and shall be available to the DISTRICT.
- D. The CONTRACTOR is referred to Section 01300 – Contractor Submittals for more detail regarding submittal requirements.

5. MATERIALS, SERVICES AND FACILITIES

- A. It is understood that, except as otherwise specifically stated in the Contract Documents, the CONTRACTOR shall provide and pay for all labor, tools, equipment, light, power, transportation, supervision, temporary construction of any nature, and all other services and facilities of any nature whatsoever necessary to execute, complete and deliver the Work within the specified time.
- B. Materials and equipment shall be so stored as to insure the preservation of their quality and fitness for the work. Stored materials and equipment to be incorporated in the Work shall be located so as to facilitate prompt inspection.
- C. Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer.

6. PATENTS

The CONTRACTOR shall pay all applicable royalties and license fees. They shall defend all suits or claims for infringement of any patent rights and save the DISTRICT harmless from loss on account thereof, except that the DISTRICT shall be responsible for any such loss when a particular process, design, or the product of a particular manufacturer or manufacturers is specified.

However, if the CONTRACTOR has reason to believe that the design, process or product specified is an infringement of a patent, it shall be responsible for such loss unless he promptly gives such information to the DISTRICT.

7. MEASUREMENT AND PAYMENT

Payment will be made for work performed based on the unit price schedule on the Bid Form as determined by the DISTRICT. Full compensation for furnishing all labor, tools, equipment, and incidentals, and for doing all the work involved in complying with all of the requirements of the Contract Documents shall be considered as included in the unit prices on the Bid Form, and no additional compensation will be allowed therefor.

8. INSPECTION AND TESTING

When requested by the DISTRICT, the CONTRACTOR shall furnish a complete written statement of the origin, composition, and manufacture of any and all materials that are to be used in the Work.

All materials may be inspected, sampled and tested by the DISTRICT. The CONTRACTOR shall give sufficient advance notice of placing of order to permit tests to be performed before the materials are incorporated in the work and they shall afford such facilities as the DISTRICT may be required for collecting and making inspections. All samples shall be furnished by the CONTRACTOR without cost to the DISTRICT. The DISTRICT may waive sampling and testing if adequate information, properly certified, is available to indicate that materials comply with terms of the specifications.

The CONTRACTOR shall furnish the DISTRICT with every reasonable facility for ascertaining whether or not the work as performed is in accordance with the requirements and intent of the Contract Documents. If the DISTRICT requests it, the CONTRACTOR at any time before acceptance of the Work shall remove or uncover such portions of the finished work as may be directed. After examination, the CONTRACTOR shall restore said portions of the work to the standards required by the Contract Documents. Should the Work thus exposed or examined prove acceptable, the uncovering or removing and the replacing of the covering or making good of the parts removed, will be paid for as provided under Section 00500 - Agreement, but should the work so exposed or examined prove unacceptable the uncovering shall be at the CONTRACTOR's expense. Inspection, supervision or observation by the DISTRICT shall not be considered as direct control of the individual workmen and their work. The direct control shall be solely the responsibility of the CONTRACTOR's foreman and superintendent.

The inspection of the Work shall not relieve the CONTRACTOR of any of its obligation to fulfill the Agreement as herein provided, and unsuitable materials may be rejected

notwithstanding that such work and materials may have been previously overlooked and accepted or estimated for payment.

On all questions concerning the acceptability of materials, classifications or materials, execution of the Work, and the determination of costs, the decision of the DISTRICT shall be final and binding upon all parties.

The CONTRACTOR shall at all times maintain proper facilities and provide safe access to all parts of the Work, to the shops wherein the Work is in preparation and to all warehouses and storage yards wherein equipment and materials are stored for purposes of inspection by the DISTRICT.

Inspectors employed by the DISTRICT shall be authorized to inspect all work done and materials furnished. Such Inspection may extend to all or any part of the Work, and to the preparation, fabrication, or manufacture of the materials to be used. The Inspector is not authorized to alter or waive the provisions of the Contract Documents.

An inspector is placed on the Work to keep the DISTRICT informed as to the progress of the Work and the manner in which it is being done; also to call the CONTRACTOR's attention to any non-conformance with the Contract Documents. The Inspector will not be authorized to approve or accept any portion of the Work, to issues instructions contrary to the Contract Documents, or to act as foreman for the CONTRACTOR. The Inspector will have authority to reject defective material and to suspend any work that is being improperly performed, subject to the final decision of the DISTRICT.

The Inspector will exercise such additional authority only as may from time to time be delegated to them by the DISTRICT.

9. LIMITS OF CONTRACTOR'S OPERATIONS

The CONTRACTOR will confine its operations within the limitations of construction easements or limits as shown on the drawings. If the CONTRACTOR's operations result in damage to any privately owned facility outside the limitations of the construction easement, the CONTRACTOR shall, at its expense, repair such damage or indemnify the DISTRICT of the damaged property.

If the CONTRACTOR negotiates with property owners for use of land for construction operations outside the limits of the construction easements, it shall do so at its own risk and the DISTRICT will assume no liability for such use of private property. All agreements between the CONTRACTOR and private property owners shall be in writing and the DISTRICT will be furnished copies of such agreements.

Hauling vehicles transporting materials to and from the Project site either empty or loaded shall meet all the requirements and comply with all laws and regulations as would be required when traveling on a public street or highway for any other purpose.

It is specifically agreed between the parties executing this Agreement that it is not intended by any of the provisions of any part of the Agreement to create the public or any member thereof a third party beneficiary hereunder, or to authorize anyone not a party to this Agreement to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of this Agreement.

10. CONTRACT TIMES, MILESTONES AND LIQUIDATED DAMAGES

The DISTRICT and the CONTRACTOR recognize that time is of the essence for the performance of the CONTRACTOR's obligations pursuant to this Agreement, and that the DISTRICT will suffer financial loss if the Work is not completed within the time specified in the Contract Documents, plus any extensions thereof. They also recognize that losses incurred by the DISTRICT for delay would be extremely difficult or impossible to calculate or ascertain. The DISTRICT and the CONTRACTOR recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by the DISTRICT if the Work is not completed on time. Accordingly, instead of requiring any such proof, the DISTRICT and the CONTRACTOR agree that as liquidated damages for delay (but not as a penalty), the CONTRACTOR shall pay the DISTRICT the amounts as indicated below for each Day that expires after the time specified for each milestone.

The DISTRICT shall have the right to deduct the liquidated damages from any money in its hands, otherwise due, or to become due, to the CONTRACTOR, or to initiate applicable dispute resolution procedures and recover liquidated damages for nonperformance of this Agreement within the time stipulated.

When CONTRACTOR is in default for nonperformance within the stipulated Contract Times including any intermediate Milestone Dates, the DISTRICT shall notify the CONTRACTOR in writing within 3 Days after the Contract Times or intermediate Milestone Date, and deduct the liquidated damages in the amount stated in the Contract Documents from any monies due the CONTRACTOR.

The deductions of liquidated damages shall be in addition to any retainage withheld and shall be non-reimbursable.

The WORK shall be complete in accordance with the following schedule milestones:

Milestone No.	Milestone Description	Required Completion Date
1	Substantial Completion of Tank Rehabilitation and Disinfection	July 23, 2027
2	Final Completion of the Project	July 30, 2027

Liquidated damages for each calendar day that each milestone is not completely met, are as follows:

Milestone No.	Milestone Description	Amount of Liquidated Damages Per Day
1	Substantial Completion of Tank Rehabilitation and Disinfection	\$1,000
2	Final Completion of the Project	\$500

11. MILESTONE COMPLETION

For a given milestone to be considered complete, the following portions of the WORK must be performed:

Milestone No. 1:

- Completion of all welding repairs
- Completion of all interior coating application
- Installation of cathodic protection system
- Disinfection of the tank interior
- Successful completion of all bacteriological and VOC testing

Milestone No. 2:

- Completion of all exterior coating repairs
- Completion of all other Work required by the Contract Documents, including but not limited to, demobilization, site cleanup and submittal of as-built drawings

12. COORDINATION AND INTERPRETATION OF DRAWINGS AND SPECIFICATIONS

The Drawings and Specifications, Contract Change Orders, and all supplementary documents are essential parts of the Contract Documents, and a requirement occurring in one is as binding as though occurring in all. They are intended to be coordinated and to describe and provide for a complete Work.

Should it appear that the work to be done or any of the matters relative thereto are not sufficiently detailed or explained in these Contract Documents, the CONTRACTOR shall request of the DISTRICT such further explanations as may be necessary and shall conform to such explanations as part of the Contract. In the event of any doubt or question arising regarding the true meaning of these Contract Documents, reference shall be made to the DISTRICT, whose decision thereon shall be final. In the event of any discrepancy, between any drawings and the details written thereon, the details shall be taken as correct.

In the event of a conflict between the Agreement and any of the other Contract Documents, the Document highest in precedence shall control and supersede the Document which is contrary to it. The order of precedence of the Contract Documents is as follows:

First: Supplemental Agreements, the last in time being the first in precedence.

Second: The Agreement.

Third: Special Provisions.

Fourth: CONTRACTOR Bid.

Fifth: Notice to Contractors.

Sixth: Instruction to Bidders.

13. DISTRICT'S RIGHT TO PARTIAL USE

When provided for in the Contract Documents or agreed to in writing by the DISTRICT and the CONTRACTOR, the DISTRICT may notify the CONTRACTOR and begin using a portion of the Work even though it is not Substantially Complete. The CONTRACTOR and the DISTRICT shall agree on and document responsibilities for security, operation, safety,

maintenance, utilities, insurance, warranties and guarantees for that portion of the Work being used by the DISTRICT. The DISTRICT and the CONTRACTOR inspect such portion of the Work and shall prepare a list of work to be completed or corrected before final acceptance. The DISTRICT's use of any portion of the Work shall not constitute final acceptance of that portion of the Work prior to Final Completion and acceptance of the Work as a whole. The DISTRICT shall allow the CONTRACTOR reasonable access to complete or correct work in areas being used by the DISTRICT. Partial beneficial occupancy shall not relieve the CONTRACTOR of its responsibility for Liquidated Damages, unless the Contract Documents expressly provide otherwise.

14. CONTRACTOR'S WORKING HOURS

The CONTRACTOR shall comply with the restrictions on working hours indicated in the Town of Truckee Encroachment Permit (7:00 AM to 7:00 PM Monday through Friday).

15. DISTRICT'S WORKING HOURS

The standard work day of the DISTRICT is the period from 7:30 AM to 4:00 PM. The standard work week begins on Monday and ends on Friday, excepting legal holidays. The DISTRICT's legal holidays are defined as the following: New Year's Day, President's Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, the Friday after Thanksgiving, Christmas Eve and Christmas Day.

Should the CONTRACTOR choose to perform work outside of these standard working hours, the CONTRACTOR shall notify the DISTRICT a minimum of two working days beforehand.

The CONTRACTOR shall schedule all inspection, testing and other activities requiring DISTRICT participation during the DISTRICT's standard working hours. If the CONTRACTOR desires to have inspection, testing or other activities requiring DISTRICT participation occur outside of those times, the CONTRACTOR shall reimburse the DISTRICT for the labor costs incurred by the DISTRICT.

In the event that DISTRICT inspectors, operations personnel, engineers or other agents of the DISTRICT are required to be at the Project site later than the standards working hours noted above, the CONTRACTOR shall reimburse the DISTRICT for the additional labor costs incurred by the DISTRICT. Such reimbursement shall occur under the following situations:

- A. Failure by the CONTRACTOR to provide adequate labor or equipment to the Project resulting in the work extending later than the standard working hours on a given day.
- B. Failure by the CONTRACTOR to properly plan and schedule the work, resulting in the work extending later than the standard hours on a given day.
- C. Failure by the CONTRACTOR to take care when excavating near known existing facilities, resulting in damage to existing facilities, the repair of which extends later than the standard working hours on a given day.

- D. The existence of a public safety hazard such as an active work zone, open trench, or similar situation that, in the opinion of the DISTRICT, required that DISTRICT personnel be present in order to protect public safety.
- E. Any other situation which, in the opinion of the DISTRICT, requires that DISTRICT personnel be present in order to ensure proper prosecution of the Work in accordance with the Contract Documents that extends later than the standard working hours on a given day.

16. LIMITATION OF DISTRICT'S RESPONSIBILITIES

The DISTRICT will not supervise, direct, control or have authority over or be responsible for the CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of the CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of the Work. The DISTRICT will not be responsible for CONTRACTOR's failure to perform or furnish the Work in accordance with the Contract Documents.

The DISTRICT will not be responsible for the acts or omissions of the CONTRACTOR or any Subcontractor, any Supplier, or any other person or organization performing or furnishing any portion of the Work.

17. CONSTRUCTION SAFETY

- A. The CONTRACTOR shall follow construction procedures necessary to provide a safe working condition through all phases of the project. Said procedures shall conform to the Safety Orders, Division of Industrial Safety, Title 8, California Administrative Code and all other provisions required by Federal, State, County and Town law or ordinance. The CONTRACTOR shall also conform to all applicable requirements of the Federal Occupational Safety and Health Administration.
- B. The CONTRACTOR is solely responsible for outlining the safety procedures to be followed by its workmen, all subcontractors, and related trades working on its job, and effectively assuring compliance with such procedures. The CONTRACTOR shall always provide for the safety of the public both day and night where they are exposed to its construction operation.
- C. The DISTRICT, along with its representatives and agents, are not responsible for reviewing or approving the safety procedures followed by the CONTRACTOR.

END OF SECTION 00800

SECTION 01010

SUMMARY OF WORK

PART 1 -- GENERAL

1.01 GENERAL

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

1.02 BACKGROUND

- A. The purpose of this project is:
 - 1. Rehabilitate the existing 160,447 gallon welded steel tank which will include interior blasting, weld repairs as necessary, interior recoating, and exterior touch up coating. The tank is referred to as Donner Trails Tank No.2 located at 11783 Bull Pine Trail, near the Tahoe Donner area of Truckee.

1.03 WORK COVERED BY CONTRACT DOCUMENTS

- A. The WORK of this project comprises the following:
 - 1. Provide all necessary submittals and records set forth in the Contract Documents.
 - 2. Mobilize equipment to the project site. The DISTRICT has not secured an off-site location for storage of equipment and materials. The CONTRACTOR shall store materials and equipment at the site in a manner that will not impede traffic or endanger the public. In some cases, due to site size restrictions, the CONTRACTOR may have to store materials elsewhere. Acquisition of any additional storage areas shall be the responsibility of the CONTRACTOR as described in Section 01550 – Site Access and Storage. In all cases, the CONTRACTOR shall be responsible for the safe storage and transport of the material to the jobsite.
 - 3. The CONTRACTOR shall be responsible to ensure that the rehabilitated tank is thoroughly disinfected, pressure tested and flushed in a manner acceptable to the DISTRICT, prior to connecting to the existing water system. Reference Section 01757 – Disinfection, for additional requirements.
 - 4. The DISTRICT has applied for the necessary permits for disposal of disinfection flushing water to the existing sewer system. AT NO TIME, shall the system be flushed to atmosphere and water be allowed to run along the ground. All flushed water shall be contained and piped to a manhole as directed by the DISTRICT. The flushing sewer disposal rate is restricted due to the size of sewage facilities in

the area. All disposal to the sanitary sewer shall be done at the maximum flow rate of 100 gallons per minute.

1.04 CONTRACT METHOD

- A. The WORK hereunder will be constructed under a combination lump sum and unit price Contract. Payment for WORK shall be as described in Section 00310 – Measurement and Payment.

1.05 EXPRESSION OF CONTRACTOR RESPONSIBILITY IN THE TECHNICAL SPECIFICATIONS

- A. Whenever in the Technical Specifications, requirements are expressed with active verbs and no subjects, the words, "The CONTRACTOR shall," have been omitted as a matter of style, and it is intended that the CONTRACTOR is the party responsible for taking the action required.

1.06 WORK SEQUENCE AND SCHEDULING CONSTRAINTS

- A. The CONTRACTOR shall schedule and perform the WORK in such a manner as to result in the least possible disruption to the public's use of roadways, driveways, and utilities.
- B. The sequence of work shall be at the CONTRACTOR'S option.
- C. All project construction activities must be completed and the tank and all appurtenances returned to service by October 1, 2026.

1.07 CONTRACTOR USE OF PROJECT SITE

- A. The CONTRACTOR'S use of the Project Site shall be limited to its construction operations related to this Contract only.

1.08 STORAGE

- A. Storage conditions shall be in accordance with manufacturer's instructions and be acceptable to the DISTRICT for all materials and equipment not incorporated into the WORK but included in Applications for Payment. Proper environmental conditions shall be maintained by the CONTRACTOR at all storage facilities. The CONTRACTOR shall obtain any necessary off-site storage facilities and such facilities shall be accessible to the DISTRICT. The stored materials shall be insured for full value. Certificates of liability insurance coverage shall be submitted to the DISTRICT with the request for payment. All arrangements and costs for storage facilities shall be paid by the CONTRACTOR.

1.09 NOTICES TO OWNERS OF ADJACENT PROPERTIES AND UTILITIES

- A. The CONTRACTOR shall notify owners of adjacent property and utilities when prosecution of the WORK may affect them.
- B. When it is necessary to temporarily deny access by owners or tenants to their property, or when any utility service connection must be interrupted, the CONTRACTOR shall give notices sufficiently in advance to enable the affected persons to provide for their needs. Notices shall conform to any applicable local ordinance and, whether delivered orally or in writing, shall include appropriate information concerning the interruption and instructions on how to limit any resulting inconvenience.
- C. The CONTRACTOR shall review with the various utility companies the construction methods, safety procedures, and WORK to be done in the vicinity of utilities.

1.10 PROJECT MEETINGS

- A. Preconstruction Conference:
 - 1. Prior to the commencement of WORK at the Site, a preconstruction conference will be held at the offices of the DISTRICT. The Conference shall be attended by the CONTRACTOR'S Project Manager, its Superintendent, and its Subcontractors as the CONTRACTOR deems appropriate. Other attendees will be:
 - a. Representatives of DISTRICT.
 - b. Others as requested by CONTRACTOR or DISTRICT.
 - 2. The purpose of the conference is to designate responsible personnel, discuss Contract requirements, and establish a working relationship. Matters requiring coordination will be discussed and procedures for handling such matters established. The complete agenda will be furnished to the CONTRACTOR prior to the meeting date. However, CONTRACTOR shall be prepared to discuss all of the items listed below:
 - a. CONTRACTOR'S assignments for safety and first aid, including designated competent person(s) and the CONTRACTOR'S safety representative.
 - b. Status of CONTRACTOR'S insurance and bonds.
 - c. CONTRACTOR'S construction schedule.
 - d. Transmittal, review, and distribution of CONTRACTOR'S submittals.
 - e. Processing applications for payment.
 - f. Maintaining record documents.
 - g. Critical Work sequencing.
 - h. Field decisions and Change Orders.
 - i. Use of Project Site, storage areas, security and housekeeping.
 - j. Equipment deliveries and priorities.
 - k. Permits required for construction.
 - l. Utilities required for construction.
 - m. Contract authority and channels of communication.
 - n. Coordination with others.
 - 3. The DISTRICT will preside at the preconstruction conference and will arrange for keeping and distributing the minutes to all persons in attendance.
 - 4. The following emergency contacts for the DISTRICT are designated:
 - Neil Kaufman: (530) 582-3950 or (530) 448-3018
 - Earl Smith: (530) 585-3955 or (530) 448-3022

- B. Progress Meetings:
1. The DISTRICT will schedule and hold progress meetings as deemed necessary by the DISTRICT. The CONTRACTOR, DISTRICT and all Subcontractors active on the Site shall attend each meeting. The CONTRACTOR may at its discretion request attendance by representatives of its Suppliers, manufacturers, and other Subcontractors.
 2. The DISTRICT will preside at the meetings and will arrange for keeping and distributing the minutes. The purpose of the meetings will be to review the progress of the WORK, discuss safety, maintain coordination of efforts, discuss commercial issues, discuss changes in scheduling, and resolve other problems which may develop. During each meeting, the CONTRACTOR is required to present any issues which may impact its WORK, with a view to resolve these issues expeditiously.

1.11 PUBLIC AWARENESS

- A. The CONTRACTOR is hereby notified that the general public and project site neighbors have concerns relative to construction on the tank. The construction planning and scheduling must continue to address the concerns presented by the neighborhood.
- B. The following are sensitive issues related to general public and project site neighbors:
1. Safety in General is the most important Public Awareness issue. Safety in General includes the following:
 - a. Safety of children pertaining to school travel and play.
 - b. Safety of pedestrian areas around the construction area.
 - c. Safety of neighborhood vehicular traffic around the construction area.
 - d. Safety of personal property around the construction area.
 - e. Safe and effective traffic control measures
 2. Dust control.
 3. Minimizing inconvenience to the community and neighborhood. (i.e., access to businesses and residences).
 4. Control and limiting of construction traffic.
 5. Working cleanly within public rights-of-way.
 6. Staging and coordination of construction activity.
 7. Precautions to minimize noise.
 8. Maintenance and utilization of construction employee parking.
 9. Timely project completion.
 10. Working hours.
- C. The CONTRACTOR is hereby notified that the DISTRICT may hold periodic meetings with public citizens who reside in the neighborhood and community surrounding the Site. The DISTRICT will notify the CONTRACTOR of the dates of such meetings in writing at least 5 days prior to a meeting.
- D. At the request of the DISTRICT, the CONTRACTOR'S representative shall attend up to 2 such meetings. The meetings will likely be held on weekdays after conclusion of the standard work day.

1.12 CONSTRUCTION SAFETY

- A. The CONTRACTOR shall follow construction procedures necessary to provide a safe working condition through all phases of the project. Said procedures shall conform to the Safety Orders, Division of Industrial Safety, Title 8, California Administrative Code

and all other provisions required by Federal, State, County and Town law or ordinance. The CONTRACTOR shall also conform to all applicable requirements of the Federal Occupational Safety and Health Administration.

- B. The CONTRACTOR is solely responsible for outlining the safety procedures to be followed by its workmen, all subcontractors, and related trades working on its job, and effectively assuring compliance with such procedures. The CONTRACTOR shall always provide for the safety of the public both day and night where they are exposed to its construction operation.
- C. The DISTRICT, its representatives, contractors, agents and field inspectors are not responsible for reviewing or approving the safety procedures followed by the CONTRACTOR.

PART 2 -- PRODUCTS (Not Used)

PART 3 -- EXECUTION (Not Used)

- END OF SECTION -

SECTION 01090

REFERENCE STANDARDS

PART 1 -- GENERAL

1.01 GENERAL

- A. **Titles of Sections and Paragraphs:** Captions accompanying specification sections and paragraphs are for convenience of reference only, and do not form a part of the Specifications.
- B. **Applicable Publications:** Whenever in these Specifications references are made to published specifications, codes, standards, or other requirements, it shall be understood that wherever no date is specified, only the latest specifications, standards, or requirements of the respective issuing agencies which have been published as of the date that the Work is advertised for bids, shall apply; except to the extent that said standards or requirements may be in conflict with applicable laws, ordinances, or governing codes. No requirements set forth herein or shown on the Contract Documents shall be waived because of any provision of, or omission from, said standards or requirements.
- C. **Specialists and Assignments:** In certain instances, specification text requires (or implies) that specific WORK is to be assigned to specialists or expert entities, who must be engaged for the performance of that WORK. Such assignments shall be recognized as special requirements over which the CONTRACTOR has no choice or option. These requirements shall not be interpreted so as to conflict with the enforcement of building codes and similar regulations governing the WORK; also they are not intended to interfere with local union jurisdiction settlements and similar conventions. Such assignments are intended to establish which party or entity involved in a specific unit of work is recognized as "expert" for the indicated construction processes or operations. Nevertheless, the final responsibility for fulfillment of the entire set of contract requirements remains with the CONTRACTOR.

1.02 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. Without limiting the generality of other requirements of the Specifications, all WORK specified herein shall conform to or exceed the requirements of applicable codes and the applicable requirements of the following documents.
- B. References herein to "Building Code" or "Uniform Building Code" shall mean Uniform Building Code of the International Conference of Building Officials (ICBO). Similarly, references to "Mechanical Code" or "Uniform Mechanical Code," "Plumbing Code" or "Uniform Plumbing Code," "Fire Code" or "Uniform Fire Code," shall mean Uniform Mechanical Code, Uniform Plumbing Code and Uniform Fire Code of the International Conference of the Building Officials (ICBO). "Electric Code" or "National Electric Code (NEC)" shall mean the National Electric Code of the National Fire Protection Association (NFPA). The latest edition of the codes as approved by the Municipal Code

and used by the local agency as of the date that the Work is advertised for bids, as adopted by the agency having jurisdiction, shall apply to the Work herein, including all addenda, modifications, amendments, or other lawful changes thereto.

- C. In case of conflict between codes, reference standards, drawings and the other Contract Documents, the most stringent requirements shall govern. All conflicts shall be brought to the attention of the DISTRICT for clarification and direction prior to ordering or providing any materials or furnishing labor. The CONTRACTOR shall bid for the most stringent requirements.
- D. The CONTRACTOR shall construct the Work indicated herein in accordance with the requirements of the Contract Documents and the referenced portions of those referenced codes, standards, and specifications listed herein.
- E. **Applicable Standard Specifications:** References in the Contract Documents to the "Standard Specifications" shall mean the "Standard Specifications. State of California, Department of Transportation" latest edition at time of Bid preparation. Only those portions of the "Standard Specifications" specifically identified and referred to shall apply. Portions of the "Standard Specifications" not specifically referenced shall not be considered part of the Contract Documents.
- F. References herein to "OSHA Regulations for Construction" shall mean Title 29, Part 1926, Construction Safety and Health Regulations, Code of Federal Regulations (OSHA), including all changes and amendments thereto.
- G. References herein to "OSHA Standards" shall mean Title 29, Part 1910, Occupational Safety and Health Standards, Code of Federal Regulations (OSHA), including all changes and amendments thereto.

1.03 REGULATIONS RELATED TO HAZARDOUS MATERIALS

- A. The CONTRACTOR is responsible that all work included in the Contract Documents, regardless if shown or not, shall comply with all EPA, OSHA, RCRA, NFPA, and any other Federal, State, and Local Regulations governing the storage and conveyance of hazardous materials, including petroleum products.
- B. Where no specific regulations exist, all chemical, hazardous, and petroleum product piping and storage in underground locations must be installed with double containment piping and tanks, or in separate concrete trenches and vaults, or with an approved lining which cannot be penetrated by the chemicals, unless waived in writing by the DISTRICT.

1.04 TOWN OF TRUCKEE STANDARDS

- A. While conducting Work within any Town of Truckee right-of-way, the CONTRACTOR shall have on-site at all times, a current copy of ***Town of Truckee Public Improvement and Engineering Standards***. In the event of a conflict between the Town Standards and these Contract Documents, the DISTRICT shall be notified immediately upon its discovery. The DISTRICT shall consult with the Town and the CONTRACTOR shall be directed by the DISTRICT as to which requirement shall govern.

- B. The authority of the Town to order changes to the Work is expressly limited to issues of traffic control and public safety **ONLY**. Any other changes requested by the Town, such as changes in materials, alignment or working methods shall be referred to the DISTRICT. Any changes to the Work made by the CONTRACTOR, without direction by the DISTRICT, shall be subject to removal and reinstallation at no additional cost to the DISTRICT.
- C. Copies of the ***Town of Truckee Public Improvement and Engineering Standards*** may be obtained directly from the Town of Truckee at 530-582-7700 or downloaded via the Internet at: <http://www.townoftruckee.com>.

PART 2 -- PRODUCTS (Not Used)

PART 3 -- EXECUTION (Not Used)

- END OF SECTION -

SECTION 01300
CONTRACTOR SUBMITTALS

PART 1 -- GENERAL

1.01 GENERAL

- A. CONTRACTOR "Submittals" may be Shop Drawings, schedules, surveys, reports, samples, plans, lists, drawings, documents, findings, programs, manuals, data, or any other item or information required by the Contract Documents to be submitted or offered by the CONTRACTOR in accomplishing the Work.
- B. Wherever submittals are required hereunder, all such documents shall be furnished to the DISTRICT.
- C. The CONTRACTOR is responsible for the accuracy, completeness, and coordination of all Submittals. The CONTRACTOR shall not delegate this responsibility in whole or in part to any Subcontractor. Submittals may be prepared by the CONTRACTOR, Subcontractors or Suppliers, but the CONTRACTOR shall verify that each Submittal meets the requirements of the Contract Documents. Verify that there are no conflicts between Submittals and notify the DISTRICT in each case where a Submittal may affect the work of another contractor or the DISTRICT. The CONTRACTOR shall ensure coordination of Submittals of related crafts and Subcontractors.

1.02 PRECONSTRUCTION CONFERENCE SUBMITTALS

- A. Prior to the preconstruction conference referred to in Section 01010 - Summary of Work, submit the following items for review:
 - 1. A preliminary schedule of Shop Drawings, Samples, and proposed Substitute ("Or Equal") Submittals listed in the Bid.
 - 2. A list of all permits and licenses the CONTRACTOR shall obtain indicating the agency required to grant the permit, the expected date of submittal for the permit, and required date for receipt of the permit.
 - 3. The names and qualifications of Designated Safety Representative And Designated Competent Persons.
 - 4. Preliminary Progress Schedule in accordance with Section 01310 - Construction Progress Schedule.

1.03 PROGRESS REPORTS

- A. The CONTRACTOR shall furnish a progress report to DISTRICT with each Application for Payment. If the WORK falls behind schedule, submit additional progress reports at such intervals as DISTRICT may request.
- B. Each progress report shall include sufficient narrative to describe any current and anticipated delaying factors, effect on the construction schedule, and proposed corrective actions. Any WORK reported complete, but which is not readily apparent to DISTRICT, must be substantiated with satisfactory evidence.
- C. Each progress report shall include a list of the activities completed with their actual start and completion dates, a list of the activities currently in progress, and the number of Working days required to complete each.

1.04 SHOP DRAWINGS

- A. Wherever called for in the Contract Documents, or where required by the DISTRICT, furnish for review, four copies of each Shop Drawing Submittal. Upon review, two copies shall be retained by the DISTRICT and two shall be returned to the CONTRACTOR. The term "Shop Drawings" as used herein shall be understood to include detail design calculations, shop drawings, fabrication, and installation drawings, erection drawings, lists, graphs, catalog sheets, data sheets, and similar items. Whenever the CONTRACTOR is required to submit design calculations as part of a Submittal, such calculations shall bear the signature and seal of a professional engineer registered in the appropriate branch in California unless otherwise directed.
- B. All Shop Drawing Submittals shall be accompanied by a Submittal transmittal form acceptable to the DISTRICT. The form shall indicate the Contract number and all specification references necessary to clearly denote which Contract requirements are being satisfied by the Submittal. Any Submittal not accompanied by such a form, or where all applicable items on the form are not completed, will be returned for resubmittal.
- C. Normally, a single Shop Drawing Submittal shall be used for each technical specification section or item or class of material or equipment for which a Submittal is required. A single Submittal covering multiple sections will not be acceptable, unless the primary specification references other sections for components. Example: If a pump section references other sections for the motor, protective coating, anchor bolts, local control panel, and variable frequency drive, a single submittal would be accepted. However, a single Submittal covering vertical turbine pumps and horizontal split case pumps would not be acceptable.
- D. On the transmittal form, index the components of the Submittal and insert tabs in the Submittal to match the components. Relate the Submittal components to Specification paragraph and subparagraph, Drawing number, detail number, schedule title, or room number or building name, as applicable.
- E. Unless indicated otherwise, terminology and equipment names and numbers used in Submittals shall match the Contract Documents.

- F. Format:
1. Minimum sheet size shall be 8.5 inches by 11 inches. Maximum sheet size shall be 24 inches by 36 inches. Every page in a Submittal shall be numbered in sequence. Each copy of a Submittal shall be collated and stapled or bound, as appropriate. The DISTRICT will not collate copies.
 2. Where product data from a manufacturer is submitted, clearly mark which model is proposed, with all pertinent data, capacities, dimensions, clearances, diagrams, controls, connections, anchorage, and supports. Sufficient level of detail shall be presented for assessment of compliance with the Contract Documents.
 3. Each Submittal shall be assigned a unique number. Submittals shall be numbered sequentially. The Submittal numbers shall be clearly noted on the transmittal. Original Submittals shall be assigned a numeric Submittal number. Resubmittals shall bear an alpha-numeric system which consists of the number assigned to the original Submittal for that item followed by a letter of the alphabet to represent that it is a subsequent Submittal of the original. For example, if Submittal 25 requires a resubmittal, the first resubmittal will bear the designation "25-A" and the second resubmittal will bear the designation "25-B" and so on.
- G. Disorganized Submittals which do not meet the requirements above will be returned without review.
- H. Except as may otherwise be indicated herein, the DISTRICT will return prints of each Submittal to the CONTRACTOR with its comments noted thereon, within 7 calendar days following their receipt. For resubmittal of Submittals, the DISTRICT will be allowed the same review period as for the original Submittal. It is considered reasonable that the CONTRACTOR shall make a complete and acceptable Submittal to the DISTRICT by the second submission of a Submittal item. The DISTRICT reserves the right to withhold monies due to the CONTRACTOR to cover additional costs of the review beyond the second Submittal.
- I. If two copies of a Submittal are returned to the CONTRACTOR marked "NO EXCEPTIONS," formal revision and resubmission of said Submittal will not be required.
- J. If two copies of a Submittal are returned to the CONTRACTOR marked "MAKE CORRECTIONS NOTED," formal revision and resubmission of said Submittal will not be required.
- K. If a Submittal is returned to the CONTRACTOR marked "AMEND & RESUBMIT," revise said Submittal and resubmit the required number of copies. Resubmittal of portions of multi-page documents or multi-drawing documents will not be allowed. For example, if a Shop Drawing Submittal that consists of ten drawings contains only one drawing that needs to be amended and resubmitted, the Submittal as a whole is deemed as "AMEND & RESUBMIT", and all ten drawings of the Submittal would be required to be resubmitted.
- L. If a Submittal is returned to the CONTRACTOR marked "REJECTED," revise said Submittal and resubmit the required number of copies. Resubmittal of portions of multi-page documents or multi-drawing documents will not be allowed. For example, if a Shop Drawing Submittal that consists of ten drawings contains only one drawing that is rejected and needs to be resubmitted, the Submittal as a whole is deemed as "REJECTED", and all ten drawings of the Submittal would be required to be resubmitted.

- M. Any changes made on a resubmittal, other than those made or requested by the DISTRICT, shall be identified and flagged on the resubmittal.
- N. Fabrication of an item shall be commenced only after the DISTRICT has reviewed the pertinent submittals and has returned copies to the CONTRACTOR marked either "NO EXCEPTIONS" or "MAKE CORRECTIONS NOTED." Corrections indicated on Submittals shall be considered as changes necessary to meet the requirements of the Contract Documents and shall not be taken as the basis for changes to the Contract requirements.
- O. All Shop Drawing Submittals shall be carefully reviewed by an authorized representative of the CONTRACTOR, prior to submission. Each Submittal shall be dated, signed with the following: "I have verified that the equipment or material in this Submittal meets all the requirements specified or shown in the Contract Documents without exception." In the case of Shop Drawings, each sheet shall be so dated, signed, and certified. No consideration for review of any Submittals will be made for any items which have not been so certified. All non-certified Submittals will be returned without action taken, and any delays caused thereby shall be the total responsibility of the CONTRACTOR. Submittals which the CONTRACTOR wishes to have reviewed that cannot bear this certification because they include an exception or deviation to the Contract Documents shall be submitted in accordance with Section 01600 - Products, Materials, Equipment, and Substitutions.
- P. The DISTRICT's review of Shop Drawing Submittals shall not relieve the CONTRACTOR of the entire responsibility for the correctness of details and dimensions and for compliance with the Contract Documents. The CONTRACTOR shall assume all responsibility and risk for any misfits due to any errors in Submittals. The CONTRACTOR shall be responsible for the dimensions and the design of adequate connections and details.
- Q. No changes in the Contract Times will be considered for schedule delays resulting from non-compliant Submittals.
- R. Within 14 days of the Notice to Proceed, the CONTRACTOR shall submit a complete list of anticipated Submittals which includes Specification and Drawing references.
- S. If the CONTRACTOR submits an incomplete Submittal, the Submittal may be returned without review. A complete Submittal shall contain sufficient data to demonstrate that the items contained therein comply with the Contract Documents, meet the minimum requirements for Submittals as described in the Contract Documents, and include all corrections as required from previous Submittals.

1.05 CONTRACTOR'S SCHEDULE

- A. The CONTRACTOR'S construction schedules and reports shall be prepared and submitted to the DISTRICT in accordance with the provisions of Section 01310 - Construction Progress Schedule.

1.06 SAMPLES

- A. Whenever in the Specifications samples are required, submit not less than three samples of each item or material for acceptance, at no additional cost to the DISTRICT.
- B. Samples, as required herein, shall be submitted for acceptance a minimum of 21 days prior to ordering such material for delivery to the jobsite, and shall be submitted in an orderly sequence so that dependent materials or equipment can be assembled and reviewed without causing delays in the WORK.
- C. All samples shall be individually and indelibly labeled or tagged, indicating thereon all specified physical characteristics and Manufacturer's name for identification. Upon receiving acceptance of the DISTRICT, one set of the samples will be stamped and dated and returned to the CONTRACTOR, and two sets of samples will be retained, and one set of samples shall remain at the job site until completion of the Work.
- D. Unless indicated otherwise, all colors and textures of specified items presented in sample submittals shall be from the manufacturer's standard colors and standard materials, products, or equipment lines. If the samples represent non-standard colors, materials, products, or equipment lines and their selection will require an increase in contract time or price, clearly indicate same on the transmittal page of the submittal.

1.07 SURVEY DATA

- A. The CONTRACTOR shall make available for examination throughout the construction period all field books, notes, and other data developed by CONTRACTOR in performing the surveys required by the WORK and submit all such data to DISTRICT with documentation required for final acceptance of the WORK.

1.08 OPERATIONS AND MAINTENANCE MANUAL

- A. The preparation and submission of Operations and Maintenance Manuals is not included in the WORK or this Contract.

1.09 RECORD DRAWINGS

- A. The CONTRACTOR shall prepare Record Drawings as required in Section 01305 – Record Drawings.

PART 2 -- PRODUCTS (Not Used)

PART 3 -- EXECUTION (Not Used)

– END OF SECTION –



Submittal Certification

Contractor:	Contractor's License No.:
Project Name:	
Submittal Number:	Date:

I hereby certify that I have verified that the equipment or material in this Submittal meets all the requirements specified or shown in the Contract Documents without exception.

Name: _____

Signature: _____

Date: _____



Contractor's Submittal Transmittal Form

For all Contractor Submittals, including shop drawings, sample calculations, data, or other		Date	Submittal No.
Project Name:			
This is: ☐ Original submittal ☐ 3rd submittal (Check one) ☐ 2nd submittal ☐ _____ submittal			
Submittal No.	Subject	Equipment Designation: Specification Section(s):	
Complete either (a) or (b), following:			
☐ (a) We have verified that the materials or equipment contained in this submittal meets all the requirements specified or shown (no exceptions)			
☐ (b) We have verified that the material or equipment contained in this submittal meets all the requirements specified or shown, except for the following deviations (List Deviations):			
Contractor's Authorized Representative: Signature/Title			

SECTION 01305 RECORD DRAWINGS

PART 1 -- GENERAL

1.01 THE REQUIREMENT

A. The CONTRACTOR shall prepare and maintain Record Drawings during conduct of the WORK. The Record Drawings shall comply with the format and content requirements given herein.

1.02 CONTRACTOR SUBMITTALS

A. The CONTRACTOR shall submit copies of Record Drawings to the DISTRICT in accordance with Section 01300 – Contractor Submittals.

PART 2 – PRODUCTS (NOT USED)

PART 3 -- EXECUTION

3.01 RECORD DRAWING PROCEDURES

A. The CONTRACTOR shall prepare and maintain one record set of Drawings at the Site. On these, the CONTRACTOR shall mark in red ink all project conditions, locations, configurations, and any other changes or deviations which may vary from the details represented on the original Contract Drawings, including buried or concealed construction and utility features which are revealed during the course of construction. Special attention shall be given to recording the horizontal and vertical location of all utilities that differ from the locations indicated, or which were not indicated on the Contract Drawings. Said record drawings shall be supplemented by any detailed sketches as necessary or directed to indicate fully the Work as actually constructed.

B. These master record drawings of the CONTRACTOR'S representation of as-built conditions, including all revisions made necessary by addenda and change orders shall be maintained up-to-date during the progress of the WORK. Failure to properly maintain record drawings in an up-to-date condition will result in a reduction of payment for each month of \$5,000 until the drawings are brought up-to-date.

C. In the case of those drawings which depict the detailed requirements for equipment to be assembled and wired in the factory, such as motor control centers and the like, the record drawings shall be updated by indicating those portions which are superseded by change order drawings or final shop drawings, and by including appropriate reference information describing the change orders by number and the shop drawings by manufacturer, drawing, and revision numbers.

D. Record drawings shall be accessible to the DISTRICT at all times during the construction period.

E. Final Application for Payment will not be acted upon until the record drawings have been prepared and delivered to the DISTRICT. Said up-to-date record drawings shall be in the form of a set of prints with information carefully plotted in red.

F. Upon Substantial Completion of the WORK, and prior to Final Acceptance, the CONTRACTOR shall finalize and deliver a complete set of record drawings to the DISTRICT. This set of drawings shall consist of corrected drawings showing the reported location of the WORK. The information submitted by the CONTRACTOR and incorporated by the DISTRICT into the record drawings will be assumed to be correct, and the CONTRACTOR shall be responsible for the accuracy of such information, and for any errors or omissions which may appear on the record drawings as a result.

- END OF SECTION -

SECTION 01310

CONSTRUCTION PROGRESS SCHEDULE

PART 1 -- GENERAL

1.01 REQUIREMENTS OVERVIEW

- A. The CONTRACTOR'S planning, scheduling and execution of the WORK shall be presented to the DISTRICT by submission of the schedule information and data indicated in this Section.
- B. In preparing all schedules, it is the responsibility of the CONTRACTOR to work with each Subcontractor and Supplier to obtain information pertinent to the planning and updating of their respective activities and schedules.

PART 2 -- PRODUCTS

2.01 GENERAL CRITERIA

- A. The Progress Schedule shall reflect the CONTRACTOR's plans for and status of the WORK.
- B. The Progress Schedule shall show the breakdown of work into activities and relationships only to the extent required to effectively manage the WORK. The Schedule shall show the division of the WORK into activities and specify the progression from the Notice To Proceed to the end of the Contract Times. The Preliminary Progress Schedule shall include appropriate time allowances and constraints for submittals, items of interface with work performed by others, and construction, start-up, and performance tests.
- C. The CONTRACTOR's Progress Schedule shall include all procurement related activities that lead to delivery of permanent materials to the Site in a timely manner. The procurement activities shall indicate significant events in the procurement process such as issuance of purchase orders and subcontracts, submittal of shop drawings, review and approval of shop drawings, release for fabrication, release for shipment, delivery dates for major materials and equipment, etc., as appropriate.
- D. The CONTRACTOR shall schedule those required duties and responsibilities of the DISTRICT within the Contract Times. The Progress Schedule shall incorporate activities and sequences based on the information given in the Contract Documents, and if not given, as indicated by the DISTRICT in writing.

- E. The Preliminary Progress Schedule shall identify the start and completion dates for work activities for which the CONTRACTOR is entitled to payment.
- F. The Progress Schedule shall be in a precedence diagram format, shall be plotted on a time-scaled calendar, and shall identify the Contract Times, milestones, the critical path(s), and all activities. Activities shall be shown on their early dates, with their total float noted beside them. Connections between activities, whether on the same sheet or on different sheets, shall identify both the predecessor and successor work.

2.02 SCHEDULE SUBMITTAL

- A. The CONTRACTOR shall produce a Preliminary Progress Schedule submittal that will be an accurate representation of the proposed means and methods for accomplishing the WORK. This schedule will show all logical relationships and constraints between activities. This schedule shall be available for discussion at the Preconstruction Conference described in Section 01010 – Summary of Work.

2.03 MONTHLY PROGRESS REPORTS

- A. The CONTRACTOR shall submit to the DISTRICT, a report indicating the monthly and cumulative cost totals for the WORK. The report shall be in format developed by the CONTRACTOR and reviewed by the DISTRICT.

PART 3 -- EXECUTION

3.01 SCHEDULE UPDATES

- A. The CONTRACTOR shall keep the Progress Schedule current and shall update it on a weekly basis. A copy of the current progress schedule shall be made available to the DISTRICT upon request.
- B. A copy of the updated Progress Schedule shall be submitted with each request for payment

- END OF SECTION -

SECTION 01400
QUALITY ASSURANCE/QUALITY CONTROL

PART 1 -- GENERAL

1.01 SITE INVESTIGATION AND CONTROL

- A. The CONTRACTOR shall check and verify all dimensions and conditions in the field continuously during construction. The CONTRACTOR shall be solely responsible for any inaccuracies built into the Work due to the CONTRACTOR's (including Subcontractor's) failure to comply with this requirement.
- B. The CONTRACTOR shall inspect related and appurtenant WORK and report in writing to the DISTRICT any conditions which will prevent proper completion of the WORK. Failure to report such conditions shall constitute acceptance of all Site conditions, and any required removal, repair, or replacement caused by unsuitable conditions shall be performed by the CONTRACTOR solely and entirely at CONTRACTOR's expense.

1.02 INSPECTION OF THE WORK

- A. All WORK performed by the CONTRACTOR and Subcontractors shall be inspected by the CONTRACTOR's full time Quality Control inspector. Nonconforming WORK and any safety hazards in the work area shall be noted and promptly corrected. The CONTRACTOR is responsible for the WORK to be performed safely and in conformance to the Contract Documents.
- B. The WORK shall be conducted under the general observation of the DISTRICT to ensure strict compliance with the Contract Documents. Such inspection may include mill, plant, shop, or field inspection as required. The DISTRICT, and any designated representatives shall be permitted access to all parts of the WORK, including plants where materials or equipment are manufactured or fabricated.
- C. The presence of the DISTRICT, or any designated representatives shall not relieve the CONTRACTOR of the responsibility for the proper execution of the WORK in accordance with all requirements of the Contract Documents. Compliance is the responsibility of the CONTRACTOR. No act or omission on the part of the DISTRICT or any designated representatives shall be construed as relieving CONTRACTOR of this responsibility. Inspection of WORK later determined to be nonconforming shall not be cause or excuse for acceptance of the nonconforming WORK. The DISTRICT may accept nonconforming WORK when adequate compensation is offered and it is in the DISTRICT's best interest as determined by the DISTRICT.
- D. All materials and articles furnished by the CONTRACTOR or Subcontractors shall be subject to rigid documented inspection by qualified personnel, and no materials or articles shall be used in the WORK until they have been inspected and accepted by the CONTRACTOR's Quality Control representative. No WORK shall be backfilled, buried, cast in concrete, covered, or otherwise hidden until it has been inspected by the DISTRICT. Any WORK covered in the absence of inspection shall be subject to

uncovering. Where uninspected WORK cannot be easily uncovered, such as in concrete cast over reinforcing steel, all such WORK shall be subject to demolition, removal, and reconstruction under proper inspection.

- E. All materials and articles furnished to the CONTRACTOR by the DISTRICT shall be subject to rigid inspection by the CONTRACTOR's Quality Control representative before being used or placed by the CONTRACTOR. The CONTRACTOR shall inform the DISTRICT, in writing, of the results of said inspections within one working day after completion of inspection. In the event that the CONTRACTOR believes any material or articles provided by the DISTRICT to be of insufficient quality for use in the WORK, the CONTRACTOR shall immediately notify the DISTRICT.

1.03 TIME OF INSPECTION AND TESTS

- A. Samples and test specimens required under these Specifications shall be furnished and prepared for testing in ample time for the completion of the necessary tests and analyses before said articles or materials are to be used. The CONTRACTOR shall furnish and prepare all required test specimens at the CONTRACTOR's own expense. As provided in the Contract Documents, performance of the certain tests will be by the DISTRICT, and all costs therefor will be borne by the DISTRICT at no cost to the CONTRACTOR except that the costs of any test which shows unsatisfactory results shall be backcharged to the CONTRACTOR.
- B. Whenever the CONTRACTOR is ready to backfill, bury, cast in concrete, hide, or otherwise cover any WORK under this Contract, the DISTRICT shall be notified not less than 24 hours in advance to request inspection before beginning any such WORK of covering. Failure of the CONTRACTOR to notify the DISTRICT at least 24 hours in advance of any such inspections shall be reasonable cause for the DISTRICT to order a sufficient delay in the CONTRACTOR's schedule to allow time for such inspection. The costs of any remedial, or corrective work required, and all costs of such delays, including its impact on other portions of the WORK, shall be borne by the CONTRACTOR.

1.04 SAMPLING AND TESTING

- A. When not otherwise indicated, all sampling and testing shall be in accordance with the methods prescribed in the current standards of the ASTM, as applicable to the class and nature of the article or materials considered. However, the DISTRICT reserves the right to use any generally-accepted system of inspection that, in the opinion of the DISTRICT, will ensure that the quality of the workmanship is in full accord with the Contract Documents.
- B. The DISTRICT reserves the right to waive tests or quality assurance measures, but waiver of any specific testing or other quality assurance measure, whether or not such waiver is accompanied by a guarantee of substantial performance as a relief from the indicated testing or other quality assurance requirements as originally specified, and whether or not such guarantee is accompanied by a performance bond to assure execution of any necessary corrective or remedial work, shall not be construed as a waiver of any technical or qualitative requirements of the Contract Documents.

- C. Notwithstanding the existence of such waiver, the DISTRICT shall reserve the right to make independent investigations and tests as specified in the following paragraph and failure of any portion of the WORK to meet any of the qualitative requirements of the Contract Documents, shall be reasonable cause for the DISTRICT to require the removal or correction and reconstruction of any such WORK.
- D. In addition to any other inspection or quality assurance provisions that may be indicated, the DISTRICT shall have the right to independently select, test, and analyze, at the expense of the DISTRICT, additional test specimens of any or all of the materials to be used. Results of such tests and analyses shall be considered along with the tests or analyses made by the CONTRACTOR to determine compliance with the applicable specifications for the materials so tested or analyzed, provided that wherever any portion of the WORK is discovered, as a result of such independent testing or investigation by the DISTRICT, which fails to meet the requirements of the Contract Documents, all costs of such independent inspection and investigation and all costs of removal, correction, reconstruction, or repair of any such WORK shall be borne by the CONTRACTOR.

1.05 RIGHT OF REJECTION

- A. The DISTRICT shall have the right at all times and places to reject any articles or materials to be furnished hereunder which, in any respect, fail to meet the requirements of the Contract Documents, regardless of whether the defects in such articles or materials are detected at the point of manufacture or after completion of the WORK at the Site. If the DISTRICT, through an oversight or otherwise, has accepted materials or WORK which are defective or in any way contrary to the Contract Documents, such materials, no matter in what stage or condition of manufacture, delivery, or erection, may be rejected.
- B. The CONTRACTOR shall promptly remove or replace rejected articles or materials from the Site of the Work after notification of rejection.
- C. All costs of removal and replacement of rejected articles or materials shall be borne by the CONTRACTOR at no increased cost to the DISTRICT.
- D. Failure to promptly remove and replace rejected WORK shall be considered a breach of this contract and the DISTRICT may, after 7 days notice, terminate the CONTRACTOR'S right to proceed with the affected WORK and remove and replace the Work and issue a backcharge to cover the cost of the WORK.

1.06 CONTRACTOR'S QUALITY ASSURANCE/QUALITY CONTROL REQUIREMENTS

- A. The CONTRACTOR shall establish and execute a Quality Assurance/Quality Control (QA/QC) program for the services which are being procured from the CONTRACTOR. The program shall provide the CONTRACTOR with adequate measures for verification and conformance to defined requirements by its personnel and lower-tier Subcontractors (including fabricators, suppliers, and sub-subcontractors). This program shall be described in a QA/QC Plan responsive to this Section.

1.07 TESTING SERVICES

- A. All tests which require the services of a laboratory to determine compliance with the Contract Documents shall be performed by an independent commercial testing firm acceptable to the DISTRICT. The testing firm's laboratory shall be staffed with experienced technicians, properly equipped and fully qualified to perform the tests in accordance with the specified standards.
- B. The DISTRICT shall have the right to inspect work performed by the independent testing laboratory both at the project and at the laboratory. This shall include inspection of the independent testing laboratory's internal quality assurance records (quality assurance manual, equipment calibrations, proficiency sample performance, etc.).
- B. The CONTRACTOR shall obtain the DISTRICT'S acceptance of the testing firm before having services performed, and shall pay all costs for these testing services.
- C. Testing services provided by the DISTRICT, if any, are for the sole benefit of the DISTRICT. However, test results shall be available to the CONTRACTOR. Testing necessary to satisfy the CONTRACTOR's internal quality control procedures shall be the sole responsibility of the CONTRACTOR.
- D. **Testing Services Furnished by CONTRACTOR:** Unless otherwise indicated, the CONTRACTOR shall furnish all testing services in connection with the following materials as required for DISTRICT's review:
 - 1. None anticipated.
- E. **Testing Services furnished by the DISTRICT:**
 - 1. Unless otherwise indicated, the DISTRICT will provide Quality Control testing services in connection with the following materials and equipment incorporated in the WORK:
 - a. Weld inspections.
 - b. Coating inspections.
 - 2. Testing, including sampling, shall be performed by the DISTRICT or the DISTRICT's testing firm's laboratory personnel, in general manner and frequency indicated in the Specifications.
 - 3. The testing firm's laboratory shall perform all laboratory tests within a reasonable time consistent with the specified standards and will furnish a written report of each test.
 - 4. The CONTRACTOR shall furnish all sample materials and cooperate in the testing activities, including sampling. The CONTRACTOR shall interrupt the WORK when necessary to allow testing, including sampling to be performed. The CONTRACTOR shall have no claim for an increase in Contract Price or Contract Times due to such interruption. When testing activities, including sampling, are performed in the field by the testing firm's laboratory personnel, furnish personnel and facilities to assist in the activities.

- F. **Transmittal of Test Reports:** Written reports of tests and engineering data furnished by the CONTRACTOR for the DISTRICT's review of materials and equipment proposed to be used in the WORK shall be submitted as indicated for Shop Drawings.
1. The testing firm retained by the CONTRACTOR for material testing shall furnish five copies of written report of each test. Four copies of each test report shall be transmitted to the DISTRICT within 3 days after each test is completed. Each report for each type of test shall be consecutively numbered.
 2. The DISTRICT shall furnish one copy of each field and laboratory QC test performed by the DISTRICT to the CONTRACTOR.

PART 2 -- PRODUCTS (Not Used)

PART 3 -- EXECUTION (Not Used)

- END OF SECTION -

SECTION 01450

PERMITS

PART 1 -- GENERAL

1.01 THE REQUIREMENT

- A. The CONTRACTOR shall obtain permits required for the execution of the WORK in accordance with the Contract Documents. Copies of these permits shall be furnished to the DISTRICT.

1.02 PERMITS OBTAINED BY THE DISTRICT

- A. **Tahoe-Truckee Sanitation Agency Permit to Discharge to Sanitary Sewer:** The DISTRICT will acquire a permit from the Tahoe-Truckee Sanitation Agency allowing the discharge of water to the sanitary sewer for activities associated with this project. The CONTRACTOR shall comply with the applicable provisions of this permit and shall bring to the attention of the DISTRICT, any applicable provision of this permit that is in conflict with the reasonable completion of the WORK. The DISTRICT shall make any decisions concerning modifications of either the specifications or the provisions of the permit, and its decision shall be final.
 - 1. The DISTRICT will pay the deposit associated with the permit.
 - 2. The DISTRICT will also pay the \$5.00/1,000 gallons disposal charge. However, if the CONTRACTOR is, in the opinion of the DISTRICT, being wasteful or careless about the discharge of water, the CONTRACTOR shall reimburse the DISTRICT for the disposal fee associated with that water deemed to be excessive.
- B. **Truckee Sanitary District Permit to Discharge to Sanitary Sewer:** The DISTRICT will acquire a permit from the Truckee Sanitary District allowing the discharge of water to the sanitary sewer for activities associated with this project. The CONTRACTOR shall comply with the applicable provisions of this permit and shall bring to the attention of the DISTRICT, any applicable provision of this permit that is in conflict with the reasonable completion of the WORK. The DISTRICT shall make any decisions concerning modifications of either the specifications or the provisions of the permit, and its decision shall be final.
 - 1. The DISTRICT will pay the \$2.07/1,000 gallons disposal charge. However, if the CONTRACTOR is, in the opinion of the DISTRICT, being wasteful or careless about the discharge of water, the CONTRACTOR shall reimburse the DISTRICT for the disposal fee associated with that water deemed to be excessive.

1.03 PERMITS TO BE OBTAINED BY THE CONTRACTOR

- A. The CONTRACTOR shall obtain any and all other permits required for the prosecution of the WORK.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

- END OF SECTION -

SECTION 01505

MOBILIZATION

PART 1 -- GENERAL

1.01 GENERAL

- A. Mobilization shall consist of preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies, and incidentals to the project site; for the establishment of all offices, buildings and other facilities necessary for work on the project; and for all other work and operations which must be performed or costs incurred prior to beginning work on the various contract items at the project site.
- B. The CONTRACTOR shall maintain near the project site (within the town of Truckee) a suitable office or other protected area in which shall be kept copies of Contract Documents, project progress records, etc., which shall be accessible to the DISTRICT during normal working hours.

1.02 CONSTRUCTION UTILITIES

- A. Water will be furnished free of charge to the CONTRACTOR, in reasonable quantities, for the CONTRACTOR'S use during the WORK. The DISTRICT shall make water available at the following locations:
 - 1. The DISTRICT will allow the CONTRACTOR to draw water from existing fire hydrants near the areas of Work. The exact hydrants to be used shall be determined at the pre-construction conference. The CONTRACTOR shall be responsible for conveying water from one of these fire hydrants to the Project Site.
 - 2. Water shall be taken from fire hydrants into water trucks, holding tanks or similar vessels for later use by construction activities. The CONTRACTOR shall not draw water directly from fire hydrants for use in construction activities.
- B. Electricity is not currently available at any of the areas of Work. The CONTRACTOR may, at the CONTRACTOR'S expense, apply for and construct temporary construction electrical service.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

- END OF SECTION

SECTION 01520

SECURITY

PART 1 -- GENERAL

1.01 SECURITY PROGRAM

- A. The CONTRACTOR shall protect the WORK from theft, vandalism, and unauthorized entry.
- B. The CONTRACTOR shall restrict entry of persons and vehicles into Site.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

- END OF SECTION -

SECTION 01530

PROTECTION OF EXISTING FACILITIES

PART 1 -- GENERAL

1.01 GENERAL

- A. The CONTRACTOR shall protect all existing utilities and improvements not designated for removal and shall restore damaged or temporarily relocated utilities and improvements to a condition equal to or better than they were prior to such damage or temporary relocation, in accordance with the Contract Documents.
- B. The CONTRACTOR shall call the Underground Service Alert (USA) 48 hours prior to commencing any digging for location of underground utility lines and cable locations. The number is (800) 642-2444.

1.02 RIGHTS-OF-WAY

- A. The CONTRACTOR shall not perform any work that would affect any oil, gas, sewer, or water pipeline; any telephone, telegraph, or electric transmission line; any fence; or any other structure, nor enter upon the rights-of-way involved until notified that the DISTRICT has secured authority therefor from the proper party. After authority has been obtained, the CONTRACTOR shall give said party due notice of its intention to begin work, if required by said party, and remove, shore, support or otherwise protect such pipeline, transmission line, ditch, fence, or structure or replace the same. When two or more contracts are being executed at one time on the same or adjacent land in such manner that work on one contract may interfere with that on another, the DISTRICT shall determine the sequence and order of the WORK. When the territory of one contract is the necessary or convenient means of access for the execution of another contract, such privilege of access or any other reasonable privilege may be granted by the DISTRICT to the contractor so desiring, to the extent, amount, in the manner, and at the times permitted. No such decision as to the method or time of conducting the WORK or the use of territory shall be made the basis of any claim for delay or damage.

1.03 PROTECTION OF STREET OR ROADWAY MARKERS

- A. The CONTRACTOR shall not destroy, remove, or otherwise disturb any existing survey markers or other existing street or roadway markers without proper authorization. No pavement breaking or excavation shall be started until all survey or other permanent marker points that will be disturbed by the construction operations have been properly referenced. All survey markers or points disturbed by the CONTRACTOR shall be accurately replaced after all street or roadway resurfacing has been completed.

1.04 RESTORATION OF PAVEMENT

- A. **General:** All paved areas including asphaltic concrete berms cut or damaged during construction shall be replaced with similar materials and of equal thickness to match the existing adjacent undisturbed areas, except where specific resurfacing requirements have been called for in the Contract Documents or in the requirements of the agency issuing a permit. All temporary and permanent pavement shall conform to the requirements of the affected jurisdictional agency. All pavements which are subject to partial removal shall be neatly saw cut in straight lines.
- B. **Temporary Resurfacing:** Wherever required by the public authorities having jurisdiction, the CONTRACTOR shall place temporary surfacing promptly after backfilling and shall maintain such surfacing for the period of time fixed by said authorities before proceeding with the final restoration of improvements.
- C. **Permanent Resurfacing:** In order to obtain a satisfactory junction with adjacent surfaces, the CONTRACTOR shall saw cut back and trim the edge so as to provide a clean, sound, vertical joint before permanent replacement of an excavated or damaged portion of pavement. Damaged edges of pavement along excavations and elsewhere shall be trimmed back by saw cutting in straight lines. All pavement restoration and other facilities restoration shall be constructed to finish grades compatible with adjacent undisturbed pavement.

1.05 EXISTING UTILITIES AND IMPROVEMENTS

- A. **General:**
 - 1. The CONTRACTOR shall protect, shore, brace, support, and maintain all underground pipes, conduits, drains, and other underground construction uncovered or otherwise affected by its construction operations. All pavement, surfacing, driveways, curbs, walks, buildings, utility poles, guy wires, fences, and other surface structures affected by construction operations, shall be restored to their original condition, whether within or outside the easement. All replacements shall be made with new materials.
 - 2. It shall be the CONTRACTOR's responsibility to ascertain the actual location of all existing utilities and other improvements that will be encountered in its construction operations, and to see that such utilities or other improvements are adequately protected from damage due to such operations. The CONTRACTOR shall take all possible precautions for the protection of unforeseen utility lines to provide for uninterrupted service and to provide such special protection as may be necessary.
- B. **Right of Access:** The right is reserved to the DISTRICT and to the owners of public utilities and franchises to enter at any time upon any public street, alley, right-of-way, or easement for the purpose of making changes in their property made necessary by the WORK of these Contract Documents.

- C. **Underground Utilities Indicated:** Existing utility lines that are indicated or the locations of which are made known to the CONTRACTOR prior to excavation and that are to be retained, and all utility lines that are constructed during this project shall be protected from damage during excavation and backfilling and, if damaged, shall be immediately repaired or replaced by the CONTRACTOR.
- D. **Underground Utilities Not Indicated:** The CONTRACTOR is hereby notified of the possible existence of underground facilities not known to the DISTRICT or in a location different from that designated on the plans. If the CONTRACTOR encounters or has evidence of existence of an underground utility not shown on the plans or marked on the ground, the CONTRACTOR shall:
1. Ascertain the exact location of said underground utility.
 2. Immediately notify the DISTRICT and follow up with written notification to the DISTRICT.
 3. Proceed with work in another work area, if possible, until the DISTRICT directs a course of action. Where it is determined by the DISTRICT that the rearrangement or repair of an underground utility, the existence of which is not shown on the plans, is essential in order to accommodate the improvements being constructed, the DISTRICT will provide for the rearrangement or repair of such facility by other forces or such rearrangement or repair shall be performed by the CONTRACTOR and will be paid for as extra work. An extension of time may be granted for delays in connection with this work described herein and for extra work performed by the CONTRACTOR
- E. The CONTRACTOR shall cooperate with the DISTRICT to investigate possible damage of existing underground utilities suspected as a result of the CONTRACTOR's operations. The CONTRACTOR shall take such measures as necessary to physically prove to the satisfaction of the DISTRICT that the existing utilities are unharmed or adequately repaired at such locations where the DISTRICT has reasonable suspicion that damage has occurred. If said utilities are found to be undamaged by the CONTRACTOR's operations, the cost of only the uncovering and backfill ordered by the DISTRICT shall, by appropriate change order, be paid by the DISTRICT:
- F. Damages:
1. All costs of locating and/or repairing damage not due to failure of the CONTRACTOR to exercise reasonable care, and removing or relocating such utility facilities not indicated in the Contract Documents with reasonable accuracy, and for equipment on the project which was actually working on that portion of the WORK which was interrupted or idled by removal or relocation of such utility facilities, and which was necessarily idled during such Work will be paid for as Extra Work in accordance with the provisions of the Contract Documents.
 2. The CONTRACTOR shall be responsible for all damage to streets, roads, highways, shoulders, ditches, embankments, culverts, bridges, and other public or private property, regardless of location or character, which may be caused by transporting equipment, materials, or personnel to or from the Work or any part or Site thereof, whether by him or his Subcontractors. The CONTRACTOR shall make satisfactory and acceptable arrangements with the owner of, or the agency or authority having jurisdiction over, the damaged property concerning its repair or replacement or payment of costs incurred in connection with the damage.

- G. **Approval of Repairs:** All repairs to a damaged utility or improvement are subject to inspection and approval by an authorized representative of the utility or improvement or the DISTRICT, before being concealed by backfill or other work.
- H. **Fire Hydrants:** All fire hydrants and water control valves shall be kept free from obstruction and available for use at all times.
- I. **Maintenance of Service:** All oil and gasoline pipelines, power, and telephone or the communication cable ducts, gas and water mains, irrigation lines, sewer lines, storm drain lines, poles, and overhead power and communication wires and cables encountered during the WORK shall remain continuously in service, unless other arrangements satisfactory to the DISTRICT are made with the owner of said pipelines, duct, main, irrigation line, sewer, storm drain, pole, or wire or cable. The CONTRACTOR shall be responsible for and shall repair all damage due to its operations, and the provisions of this section shall not be abated even in the event such damage occurs after backfilling or is not discovered until after completion of the backfilling.
- J. Should the CONTRACTOR desire to have any rearrangement made in any utility, for its convenience in order to make easier its construction operations, which arrangement is in addition to, or different from the rearrangement indicated in the Drawings, the CONTRACTOR shall make whatever preparations are necessary with the owner of the utility for such arrangement and bear all expenses in connection therewith.
- K. During construction, the CONTRACTOR may find it necessary to remove, obstruct or modify such existing facilities as fences, culverts, sidewalks, and small structures. It shall be the CONTRACTOR'S responsibility to obtain permission of the owner of such facility, and subsequently return it to the condition in which it was found or better.
- L. The CONTRACTOR shall not, at any time, operate any existing valves, hydrants, blow-offs or other components within the DISTRICT's potable water system without written authorization from the DISTRICT. In the event of an emergency, the CONTRACTOR shall contact the DISTRICT to have DISTRICT employee's respond to the emergency condition. This requirement shall not prevent the CONTRACTOR from properly testing and ensuring that facilities installed under this Contract are properly functioning.

1.06 UNFAVORABLE CONSTRUCTION CONDITIONS

- A. During unfavorable weather, wet ground, or other unsuitable construction conditions, the CONTRACTOR shall confine operations to WORK that will not be affected adversely by such conditions. No portion of the WORK shall be constructed under conditions which would affect adversely the quality or efficiency thereof, unless special means or precautions are taken by CONTRACTOR to perform the WORK in a proper and satisfactory manner.

1.07 DAMAGE TO EXISTING PROPERTY

- A. The CONTRACTOR will be held responsible for any damage to existing structures, WORK, materials, or equipment because of his operations and shall repair or replace any damaged structures, Work, materials, or equipment to the satisfaction of, and at no additional cost to, the DISTRICT.
- B. The CONTRACTOR shall protect all existing structures and property from damage and shall provide bracing, shoring, or other Work necessary for such protection.
- C. The CONTRACTOR shall be responsible for all damage to streets, roads, curbs, sidewalks, highways, shoulders, ditches, embankments, culverts, bridges, or other public or private property, which may be caused by transporting equipment, materials, or personnel to or from the Work. Make satisfactory and acceptable arrangements with the agency having jurisdiction over the damaged property concerning its repair or replacement.

1.08 NOTIFICATION BY THE CONTRACTOR

- A. Prior to any excavation in the vicinity of any existing underground facilities, including all water, sewer, storm drain, gas, petroleum products, or other pipelines; all buried electric power, communications, or television cables; all traffic signal and street lighting facilities; and all roadway and state highway rights-of-way, the CONTRACTOR shall notify the owners or agencies responsible for such facilities not less than 3 days nor more than 7 days prior to excavation so that a representative of said owner or agencies can be present during such Work if they so desire.
- B. When it is necessary to temporarily deny access to property, or when any utility service connection must be interrupted, the CONTRACTOR shall give notices sufficiently in advance to enable the affected persons to provide for their needs. Notices shall conform to any applicable local ordinance and, whether delivered orally or in writing, shall include appropriate information concerning the interruption and instructions on how to limit inconvenience caused thereby.
- C. The CONTRACTOR shall contact, cooperate with, and provide written notice (including the CONTRACTOR's phone number) at least 7 days prior to beginning WORK. The written notice shall include the approximate schedule and explanation of WORK and shall be given to each homeowner, business, all emergency agencies, schools, and residents which will be affected by the project. At least 24 hours prior to initiation of WORK, a second notice shall confirm the scope of scheduled WORK. A copy of the notifications shall be submitted to the DISTRICT, for approval, prior to the start of construction. Verbal door-to-door communication shall be made prior to construction to remind all affected parties of the construction to take place. In addition, CONTRACTOR is responsible to answer and resolve any conflicts that may arise between a homeowner or business owner and himself during the construction process. CONTRACTOR shall be responsible to maintain adequate dust control measures and to protect the private property along the roadway construction.

- D. The CONTRACTOR shall maintain a written record of all notices, along with names, addresses and dates of distribution. Copies of the record shall be provided to the DISTRICT at the time notices are distributed.
 - E. The CONTRACTOR shall minimize interaction with the public and media. The CONTRACTOR shall refer questions and comments from the public or media to the DISTRICT's representative (Mr. Neil Kaufman, 530-582-3950). This requirement shall not nullify CONTRACTOR's responsibility to notify impacted residents or businesses.
-
- A. Contractor shall adequately cover and protect open excavations during non-working hours.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

- END OF SECTION -

SECTION 01550

SITE ACCESS AND STORAGE

PART 1 -- GENERAL

1.01 HIGHWAY LIMITATIONS

- A. The CONTRACTOR shall make its own investigation of the condition of available public and private roads and of clearances, restrictions, bridge load limits, and other limitations affecting transportation and ingress and egress to the site of the WORK.

1.02 TEMPORARY CROSSINGS

- A. **General:** At no time shall the CONTRACTOR inhibit safe and adequate public access to residential streets, driveways, hydrants or other public facilities.

1.03 PUBLIC ACCESS

- A. **Street Use:** Nothing herein shall be construed to entitle the CONTRACTOR to the exclusive use of any public street, alleyway, or parking area during the performance of the WORK hereunder, and it shall so conduct its operations as not to interfere unnecessarily with the authorized work of utility companies or other agencies in such streets, alleyways, or parking areas. No street shall be closed to the public without first obtaining permission of the DISTRICT and proper governmental authority. Fire hydrants on or adjacent to the WORK shall be kept accessible to fire-fighting equipment at all times. Temporary provisions shall be made by the CONTRACTOR to assure the use of sidewalks and the proper functioning of all gutters, storm drain inlets, and other drainage facilities.
- B. **Temporary Street Closure:** No street closures are anticipated to be required for this project. If closure of any street is required during construction, the CONTRACTOR shall apply in writing to the governing agency or agencies at least 30 days in advance of the required closure.
- C. **Temporary Driveway Closure:** No driveway closures are anticipated to be required for this project. If closure of a driveway is required for any reason, the CONTRACTOR shall notify the owner or occupant (if not owner-occupied) of the closure of the driveways to be closed more than one eight-hour work day at least 3 working days prior to the closure. The CONTRACTOR shall minimize the inconvenience and minimize the time period that the driveways will be closed. The CONTRACTOR shall fully explain to the owner/occupant how long the work will take and when closure is to start.

1.04 NOTIFICATION OF LOCAL AGENCIES AND UTILITIES

- A. The CONTRACTOR shall notify the Town of Truckee, Placer County, the California Department of Transportation, the Truckee Fire Protection District, Tahoe-Truckee Unified School District, Tahoe Truckee Sierra Disposal Company, Nevada County Sheriff Department and California Highway Patrol of its construction operations at least two days

prior to commencing work. The CONTRACTOR shall cooperate with local authorities relative to traffic movement in the construction area.

1.05 CONTRACTOR'S WORK AND STORAGE AREA

- A. The CONTRACTOR shall limit its operations to property owned by the DISTRICT at the Donner Trails Tank No.2 project site. CONTRACTOR's laydown shall not restrict the DISTRICT's access to other facilities at the site for continued operability. The CONTRACTOR shall acquire additional off-site storage yards if required for temporary storage of materials during construction.
- B. The DISTRICT has not secured a dedicated staging area for use by the CONTRACTOR.
- C. Should the existing work area prove insufficient, the CONTRACTOR shall make its own arrangements for any additional off-site storage or shop areas necessary for the proper execution of the WORK. The CONTRACTOR shall take precautions to protect stored materials. Construction materials shall not be stored in such a manner as to be a hazard to traffic or to the public in general and shall not inhibit DISTRICT staff access to the facilities.

1.06 PARKING

- A. The CONTRACTOR shall direct its employees to park in such a manner that complies with the requirements of the local governing agency. CONTRACTOR shall not block any driveways, mailboxes, or hydrants with its vehicles or equipment.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

- END OF SECTION -

SECTION 01560

TEMPORARY ENVIRONMENTAL CONTROLS

PART 1 -- GENERAL

1.01 DUST ABATEMENT

- A. The CONTRACTOR shall furnish all labor, equipment, and means required and carry out effective dust control measures wherever and as often as necessary to prevent CONTRACTOR's operation from producing dust in amounts damaging to property, cultivated vegetation, or domestic animals, or causing a nuisance to persons living in or occupying buildings in the vicinity. The CONTRACTOR shall be responsible for any damage resulting from any dust originating from its operations. The dust abatement measures shall be continued until the CONTRACTOR is relieved of further responsibility by the DISTRICT.
- B. The CONTRACTOR shall water active construction sites and unpaved roads as necessary to control dust.
- C. If the CONTRACTOR cannot maintain effective dust control under windy conditions, the CONTRACTOR shall temporarily suspend all excavating and grading operations.
- D. If watering of unpaved roads is not sufficient to control dust, the CONTRACTOR shall reduce vehicle speeds to 15 mph or less on unpaved roads.
- E. The CONTRACTOR shall comply with all requirements of Rule 226 as adopted by the Northern Sierra Air Quality Management District. A copy of this rule is included at the end of this Section.

1.02 RUBBISH CONTROL

- A. The CONTRACTOR shall prepare a trash abatement program and submit to DISTRICT for review and approval. The program shall include placing all litter, trash, and garbage in scavenger-proof, resealable containers. Trash includes, but is not limited to, cigarettes, cigars, gum wrappers, tissue, cans, paper, and bags. During the progress of the WORK, the CONTRACTOR shall keep the Site of the Work and other areas used by the CONTRACTOR in a neat and clean condition, and free from any accumulation of rubbish. The CONTRACTOR shall dispose of all rubbish and waste materials of any nature occurring at the Site, and establish regular intervals of collection and disposal of such materials and waste. The CONTRACTOR shall keep haul roads free from dirt, rubbish, and unnecessary obstructions resulting from its operations. Disposal of all rubbish and surplus materials shall be off the Site of construction in accordance with local codes and ordinances governing locations and methods of disposal, and in conformance with all applicable safety laws, and to the particular requirements of Part 1926 of the OSHA Safety and Health Standards for Construction.

- B. The CONTRACTOR shall clean up and properly dispose of any oil, fuel, and other equipment leaks at the time of occurrence. Service/maintenance vehicles shall carry a bucket and pads to absorb leaks and spills. The CONTRACTOR shall notify the DISTRICT of any spills or leaks at the time of occurrence.

1.03 SANITATION

- A. **Toilet Facilities:** Fixed or portable chemical toilets shall be provided wherever needed for the use of employees. Toilets at construction job sites shall conform to the requirements of Part 1926 of the OSHA Standards for Construction.
- B. **Sanitary and Other Organic Wastes:** The CONTRACTOR shall establish a regular collection of all sanitary and organic wastes. All wastes and refuse from sanitary facilities provided by the CONTRACTOR or organic material wastes from any other source related to the CONTRACTOR's operations shall be disposed of away from the Site in a manner satisfactory to the DISTRICT and in accordance with all laws and regulations pertaining thereto.

1.04 CHEMICALS

- A. All chemicals used during project construction or furnished for project operation, whether soil sterilant, pesticide, disinfectant, polymer, reactant or of other classification, shall show approval of either the U.S. Environmental Protection Agency or the U.S. Department of Agriculture. Use of all such chemicals and disposal of residues shall be in strict accordance with the printed instructions of the manufacturer.
- B. Herbicides, pesticides, and SDWA regulated compounds shall not be used unless prior approval is obtained. If CONTRACTOR decides that herbicides are needed, the CONTRACTOR shall obtain written approval to use the herbicide from the proper regulatory agencies. Copies of the documents approving such usage shall be submitted to the DISTRICT a minimum of three working days prior to their application.

1.05 FIRE PREVENTION

- A. **Fire Reporting:** There shall be readily available telephone service to the Site of the WORK. Appropriate telephone numbers shall be conspicuously posted near each telephone. Instructions shall be issued to notify the proper authorities immediately in case of fire.
- B. **Access for Fire Fighting**
 - 1. Every building adjacent to the WORK shall be accessible to fire department apparatus by way of access roadways.
 - 2. Access roadways shall not be obstructed in any manner, including parking vehicles. "No Parking" signs or other appropriate notice, or both, prohibiting obstruction may be required.
 - 3. Access for use of heavy fire fighting equipment shall be provided to the immediate job site at the start of the Contract and maintained until completion.

- C. General Fire Prevention Provisions:
1. **Smoking:** Smoking shall be prohibited at all time in the underground excavations and at or in the vicinity of hazardous operations or combustible/flammable materials. "No Smoking" signs shall be posted in these areas.
 2. **Refueling:** Special care shall be taken to prevent fires when refueling equipment.
 3. **Oil Filters, Cartridges, and Oily Rags:** Used and discarded oil filters, cartridges, and oil rags or waste shall be removed from the Site and disposed of properly.
 4. **Storage of Flammables:** Glass jugs or bottles shall not be used as storage containers for flammable materials. Gasoline, oil, grease, and other highly flammable materials shall be stored either in a separate building, or at a site where all debris is cleared within a radius of 25 feet. Storage buildings or sites shall be a minimum distance of 50 feet from other structures. Storage buildings shall be adequately posted with highly visible signs to warn of the flammables and to prohibit smoking in or around the buildings.

1.6 CULTURAL RESOURCES

- A. The DISTRICT has developed a flexible on-site/on-call agreement with a qualified archaeologist that will be empowered to redirect construction activities away from any cultural resources discovery. In the event that subsurface archaeological features or materials are exposed during any phase of project activities, all work in the immediate vicinity of the find shall halt until the qualified archaeologist has assessed the site and the significance of the resource has been evaluated. The District will coordinate any findings with the appropriate state, federal, and tribal entities according to standard reporting procedures. Any mitigation measures that may be deemed necessary shall be implemented by a qualified archaeologist representing the DISTRICT prior to the resumption of construction activities.
- B. The CONTRACTOR's attention is directed to the National Historic Preservation Act of 1966 (16 U.S.C. 470) and 36 CFR 800 which provide for the preservation of potential historical architectural, archaeological, or cultural resources (hereinafter called "cultural resources").
- C. The CONTRACTOR shall conform to the applicable requirements of the National Historic Preservation Act of 1966 as it relates to the preservation of cultural resources.
- D. In the event potential cultural resources are discovered during subsurface excavations at the Site of construction, the following procedures shall be instituted:
1. The DISTRICT shall issue a Field Order directing the CONTRACTOR to cease all construction operations at the location of such potential cultural resources find. The area shall be marked by the CONTRACTOR in an appropriate manner to ensure that all construction equipment, activities, and personnel remain clear of the area until further notice.
 2. The DISTRICT shall retain a qualified archaeologist to evaluate the find, and determine if any additional mitigation is required. The DISTRICT shall implement any required study or removal. The DISTRICT shall notify the CONTRACTOR when the mitigation is complete and construction in the affected area can resume.
- E. If human remains are exposed by project-related activity, the DISTRICT and the CONTRACTOR shall comply with California Health and Safety Code Section 7050.5,

which states that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to California Public Resources Code Section 5097.98. The DISTRICT and CONTRACTOR shall provide the opportunity for (a) Native American monitor(s) to participate in the identification, evaluation, and mitigation of effects upon, any Native American human remains or cultural resources inadvertently exposed during the proposed undertaking. Continued consultation with personnel designated by the Washoe Tribe of Nevada and California would be acceptable. Should the tribal representatives agree to consult on any such discoveries, the costs incurred shall be the responsibility of the DISTRICT.

1.7 AIR QUALITY

- A. The CONTRACTOR shall maintain all vehicles and equipment in proper tune.
- B. The CONTRACTOR shall use Best Available Control Technology on construction equipment, including a timing retardation.
- C. The CONTRACTOR shall use natural-gas powered construction equipment where possible.
- D. The CONTRACTOR shall encourage employee car-pooling.
- E. The CONTRACTOR shall comply with all air pollution control rules, regulations, ordinances and statutes that apply to the work area. The Northern Sierra Air Quality Management District can be contacted at telephone 530-274-9360.

1.8 NOISE

- A. The CONTRACTOR shall comply with the hours of WORK as allowed by the local jurisdiction.
- B. The CONTRACTOR shall comply with all sound control and noise level rules, regulations and ordinances. The CONTRACTOR shall comply with the Town of Truckee Title 18, Development Code, Chapter 18.44.
- C. All construction equipment shall be equipped with manufacturer's standard noise control devices (i.e., mufflers, acoustical lagging, and/or engineer enclosures). The CONTRACTOR shall take special care not to throttle the engine excessively and shall keep engine speed as low as possible. The CONTRACTOR shall not leave equipment running or idling needlessly, especially when near noise-sensitive land uses. Noise-sensitive land uses include, but are not limited to, residences, schools, hospitals, libraries, retirement and elderly care centers, religious and worship facilities, courts of law, certain noise-sensitive professional offices, and quiet recreational areas such as campgrounds and hiking trails.

- D. The CONTRACTOR shall use newer equipment whenever possible. The CONTRACTOR shall inspect all construction equipment at periodic intervals to ensure proper maintenance and the presence of noise control devices (i.e., mufflers and shrouding, etc.).
- E. The CONTRACTOR shall locate stationary noisy equipment away from construction boundaries that are near noise-sensitive land uses.
- F. If dewatering pumps and generators are required to be operated between the hours of 6 p.m. and 7 a.m. within 600 feet of a noise-sensitive land use, they shall be treated with acoustical noise control measures (e.g., mufflers, shrouding, and/or enclosures) to comply with the appropriate requirements of the local jurisdiction.
- G. If requested by the DISTRICT, the CONTRACTOR shall install temporary noise barriers for construction activities, including staging areas that occur closer than 100 feet from noise-sensitive land uses. Noise barriers can be made of plywood, heavy vinyl curtain material, natural or temporary earth berms, or stockpiles of construction material.

1.9 DISPOSAL OF WATER FROM DEWATERING, FLUSHING AND DISINFECTION

- A. The CONTRACTOR shall not, at any time, discharge water from construction activities directly to the environment.
- B. Water used for flushing and disinfecting of new water mains shall be disposed of either into the sanitary sewer or into tanker trucks. All discharges to the sanitary sewer system shall comply with the permits issued by the Truckee Sanitary District and the Tahoe-Truckee Sanitation Agency (TTSA). The CONTRACTOR shall contact the Truckee Sanitary District at 530-587-3804, prior to initiating any discharges to the sanitary sewer system. Water shall be discharged to the sanitary sewer system on Tuesday, Wednesday or Thursday only.
 - 1. The CONTRACTOR may discharge up to 100 gpm directly into the sanitary sewer system.
 - 2. Water discharged into tanker trucks shall be hauled directly to the TTSA treatment plant for disposal.
- C. If groundwater is encountered during construction, the CONTRACTOR shall pipe the water from its dewatering pumps directly into tanker trucks. Water from trench dewatering shall not be discharged to the sanitary sewer.

1.10 SPILL CONTAINMENT

- A. The CONTRACTOR shall exercise every reasonable precaution to protect streams, lakes, reservoirs, bays and the public water supply from pollution with fuels, oils, bitumens, calcium chloride, and other harmful materials.
- B. The CONTRACTOR shall have on-site, at all times, materials and equipment to contain any spill of gasoline, diesel fuel or other hazardous substances. Any such spills shall be prevented from reaching any surface water bodies. Furthermore, in the event of a spill, the appropriate public agencies shall be contacted to ensure proper clean-up and documentation of the spill incident

1.11 EROSION CONTROL

- A. The CONTRACTOR shall conduct and schedule his operations so as to avoid muddying and silting any waterways or drainage ditches. Care shall be exercised to preserve roadside vegetation beyond the limits of construction.
- B. The CONTRACTOR shall implement erosion control measures to prevent the erosion and transport of sediment from the Project site. Silt fencing, straw bales, straw wattles and other similar measures shall be placed as required to accomplish this objective. The CONTRACTOR shall inspect and maintain all erosion control measures throughout the duration of the Work on a daily basis.
- C. Excavated materials and imported material stockpiles shall not be placed directly on top of existing vegetation. Materials may be placed on paved areas, on sheets of fiber reinforced plastic, or may be placed directly into trucks for removal from the site for proper disposal. To the maximum extent possible stockpiles shall be on the uphill side of trenches and excavations.
- D. Established drainage ditches disturbed by the CONTRACTOR'S operations shall be graded to their original dimensions and slopes. The CONTRACTOR shall then install a three-dimensional woven geotextile specifically designed for erosion control in vegetated drainage ditches. The geotextile shall cover the sloped sides and bottom of the ditch disturbed by trench excavation. Installation of the geotextile shall be according to the manufacturer's instructions. Drainage ditches shall then be seeded in accordance with DISTRICT requirements.
- E. A Stormwater Pollution Prevention Plan (SWPPP) will be prepared for this project. The SWPPP is a separate document and is available for review at the District's Office at 11570 Donner Pass Road. A copy of the SWPPP will be provided to the CONTRACTOR at no charge. Given at the end of this Section are certification forms that shall be completed by the CONTRACTOR and all of its subcontractors prior to commencing work on the project. No subcontractor shall be allowed onto the project site without completing the attached certification.
 - 1. The CONTRACTOR shall be responsible to implement all appropriate provisions of the SWPPP.
 - 2. In the event of a discharge, the CONTRACTOR shall immediately notify the DISTRICT. Even if such a discharge occurs after normal working hours.

3. The CONTRACTOR is referred to the DISTRICT'S **Best Management Practice and Erosion Control Manual**. A copy of this document may be obtained from the DISTRICT at no charge.
 4. The CONTRACTOR is also referred to the **Caltrans Construction Site Best Management Practices (BMP) Manual** for additional information regarding the implementation of erosion control measures beyond what is given in the SWPPP and DISTRICT BMP Manual. This Caltrans document can be found at <http://www.dot.ca.gov/hq/construc/stormwater/manuals.htm>. Additional information is also given in **Volume II: Handbook of Best Management Practices** of the **Water Quality Management Plan for the Lake Tahoe Region** which can be obtained from the Tahoe Regional Planning Agency.
- F. **Site Inspection Prior to Commencing Work:** Prior to commencing work on a given pipeline segment, the CONTRACTOR and the DISTRICT shall jointly conduct a site inspection. The purpose of this site inspection shall be to review implementation of the SWPPP and identify any adjustments to the SWPPP that may be necessary.
- G. **Compliance with SWPPP:**
1. The DISTRICT shall conduct daily inspections of the project work site to verify that the CONTRACTOR is complying with the SWPPP. All areas of non-compliance shall be identified and brought to the CONTRACTOR's attention. The CONTRACTOR shall correct areas of non-compliance as soon as practical, and not later than the end of the work day on the same calendar day. During the following day's daily inspection, the DISTRICT shall verify that all areas of non-compliance identified the day before have been corrected. In the event that previously identified issues have not been corrected, the DISTRICT shall take the following steps:
 - a. For the first event of non-compliance, the DISTRICT shall present the CONTRACTOR with a **Notice of Non-Compliance with the SWPPP**. A sample Notice is attached. The DISTRICT shall then order the CONTRACTOR to stop work immediately and correct the areas of non-compliance.
 - b. For the second event of non-compliance, the DISTRICT shall present the CONTRACTOR with a **Notice of Non-Compliance with the SWPPP**. The DISTRICT shall then order the CONTRACTOR to stop work immediately and correct the areas of non-compliance. In addition, the DISTRICT may order that the CONTRACTOR's personnel attend a second training seminar to receive additional education regarding BMP implementation and compliance with the SWPPP. The CONTRACTOR shall not be due any additional compensation for performing this work and the CONTRACTOR shall not be due any additional compensation for lost production, overtime charges or any other claim that results from the CONTRACTOR'S failure to comply with the SWPPP.
 - c. For the third event (and any subsequent events) of non-compliance, the DISTRICT shall present the CONTRACTOR with a **Notice of Non-Compliance with the SWPPP**. The DISTRICT shall then order the CONTRACTOR to stop work immediately and correct the areas of non-compliance. The CONTRACTOR shall not be due any additional compensation for performing this work and the CONTRACTOR shall not be due any additional compensation for lost production, overtime charges or any other claim that results from the CONTRACTOR'S failure to comply with the

SWPPP. In addition, the DISTRICT shall deduct as liquidated damages an amount from the monies owed to the CONTRACTOR given in the following schedule:

Event	Amount
First	\$0
Second	\$0
Third	\$500
Fourth	\$1,000
Fifth	\$1,500
Sixth (and subsequent)	\$2,000

2. The DISTRICT shall also perform site inspections after working hours and on weekends to ensure that the project site is properly secured during those time periods when the CONTRACTOR's personnel are not present. In the event that the DISTRICT identifies areas of non-compliance during such inspections, the CONTRACTOR shall immediately modify its practices regarding site stabilization to comply with the SWPPP. The DISTRICT shall take the following steps regarding issues identified during non-working hours:
 - a. The DISTRICT may take corrective action to stabilize the project site and ensure compliance with the SWPPP. In such a case, the CONTRACTOR shall be responsible to reimburse the DISTRICT for the cost of all labor, equipment and materials utilized to perform such corrective actions.
 - b. For the first event of non-compliance, the DISTRICT shall present the CONTRACTOR with a **Notice of Non-Compliance with the SWPPP**. A sample Notice is attached. The DISTRICT shall then order the CONTRACTOR to stop work immediately and correct the areas of non-compliance.
 - c. For the second event of non-compliance, the DISTRICT shall present the CONTRACTOR with a **Notice of Non-Compliance with the SWPPP**. The DISTRICT may order that the CONTRACTOR's personnel attend a second training seminar to receive additional education regarding BMP implementation and compliance with the SWPPP. The CONTRACTOR shall not be due any additional compensation for performing this work and the CONTRACTOR shall not be due any additional compensation for lost production, overtime charges or any other claim that results from the CONTRACTOR'S failure to comply with the SWPPP.

- d. For the third event (and any subsequent events) of non-compliance, the DISTRICT shall present the CONTRACTOR with a **Notice of Non-Compliance with the SWPPP**. The DISTRICT shall deduct as liquidated damages an amount from the monies owed to the CONTRACTOR given in the following schedule:

Event	Amount
First	\$0
Second	\$0
Third	\$500
Fourth	\$1,000
Fifth	\$1,500
Sixth (and subsequent)	\$2,000

3. Events of non-compliance with the SWPPP shall be considered cumulative for the purposes of determining monetary penalties. As an example, the CONTRACTOR receives a **Notice of Non-Compliance** for improper installation of silt fencing on day 10 of the project, then receives a **Notice of Non-Compliance** for inadequate sweeping and site cleanup on day 13 of the project, and then receives a **Notice of Non-Compliance** for improperly securing spoils piles over a weekend on day 22 of the project. The third **Notice of Non-Compliance** would result in a deduction of \$500 from the monies owed to the CONTRACTOR, even though each **Notice of Non-Compliance** resulted from a different type of activity.
4. The DISTRICT shall have sole discretion to determine whether the actions (or non-actions) of the CONTRACTOR result in a violation of the SWPPP.
5. Events of non-compliance with the SWPPP shall be considered violations of the Agreement. The issuance of six (or more) **Notices of Non-Compliance** shall be considered non-performance and an event of default of the Contract, and shall be sufficient grounds for the DISTRICT to terminate the Contract.
- H. **Citations or Notices:** In the event that any Citations or Notices of Violation are issued for actions by the CONTRACTOR under this Contract, they shall be considered a Notice of Non-Compliance for the purposes of determining liquidated damages as described above.
- I. **Fines and/or Penalties:** In the event that fines or penalties are levied on the DISTRICT for actions by the CONTRACTOR under this Contract, the DISTRICT shall deduct the amount of the fine or penalty from the monies due to the CONTRACTOR.
- J. **Applicability of Liquidated Damages:** By signing the Agreement in Section 00500, the CONTRACTOR recognizes that it is in the DISTRICT'S interest to construct the project in a neat and workmanlike manner and that compliance with the SWPPP is necessary for the DISTRICT to comply with Federal and State regulations. The CONTRACTOR also acknowledges that the DISTRICT will suffer a loss of public standing with its customers, the Lahontan RWQCB, the California SWQCB, other local agencies and the general public if the project work site is not properly maintained. The CONTRACTOR further acknowledges that such losses incurred by the DISTRICT would be extremely difficult or impossible to calculate or ascertain. The DISTRICT and the CONTRACTOR

recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by the DISTRICT. Accordingly, instead of requiring any such proof, the CONTRACTOR agrees that as liquidated damages (but not as a penalty), the CONTRACTOR shall pay the DISTRICT the amounts as indicated in this Section for incidents of non-compliance with the SWPPP. The DISTRICT shall have the right to deduct the liquidated damages from any money in its hands, otherwise due, or to become due, to the CONTRACTOR, or to initiate applicable dispute resolution procedures and recover damages for non-performance of this Contract.

PART 2 -- PRODUCTS (Not Used)

PART 3 -- EXECUTION (Not Used)

- END OF SECTION -

RULE 226 - DUST CONTROL

PART 1.0 GENERAL

1.1 Purpose:

The purpose of this rule is to reduce and control fugitive dust emissions to the atmosphere.

1.2 Applicability:

This rule shall apply to any person engaged in:

- a. Dismantling or demolition of buildings
- b. Public or Private Construction
- c. Mining
- d. Processing of solid bulk materials (i.e., sand, gravel, rock, dirt, sawdust, ash, etc.)
- e. Operation of machines or equipment
- f. Operation and use of unpaved parking facilities
- g. Operation and use of livestock and/or horse arenas
- h. Operation of feed lots
- i. Operation and use of raceways for animals or motor vehicles.

1.3 Exemptions:

The requirements set forth in Part 3.0 - Standards do not apply to commercial agricultural operations.

PART 2.0 DEFINITIONS

Bulk Materials: Any unpackaged material which emits dust when stored or handled (i.e., dirt, sand, gravel, sawdust, ash, rock, etc.).

Chemical Soil Stabilization/Suppression: A means of dust control implemented by any person to mitigate PM 10 emissions by applying petroleum resins, asphaltic emulsions, acrylics, adhesives, or any other approved materials.

Construction Site: A site on which construction, demolition, or related activities occur, including, but not limited to, land clearing, excavation related to construction, land leveling, grading, cut and fill grading, and the erection or demolition of a structure. As used in this Rule, a construction site may encompass several contiguous parcels, or may encompass only a portion of one parcel, depending on the relationship of the property boundaries to the actual construction activities.

Disturbed Area: An area in which soils have been disturbed by grading, land leveling, scraping, cut and fill activities, excavation, brush and timber clearing, grubbing, and soils on which vehicle operation has occurred.

Dust Suppressants: Water, hygroscopic materials, chemical stabilization palliatives and suppression materials, and other approved substances.

Fugitive Dust: The particulate matter entrained in the ambient air which is caused from man-made and natural activities which is emitted into the air without first passing through a stack or duct designed to control flow, including, but not limited to, emissions caused by movement of soil,

RULE 226 - DUST CONTROL

vehicles, equipment, and wind blown dust. This excluded particulate matter emitted directly in the exhaust of motor vehicles, from other fuel combustion devices, portable brazing, soldering, or welding equipment, and from pile drivers.

Hygroscopic Materials: Any material that is readily capable of absorbing moisture from the air.

Land Preparation: Any preparation of land for anthropogenic (human) purposes, including brush or timber clearing, grubbing, scraping, ground excavation, land leveling, or grading.

Operation: Any activity, process, or project described in the applicability sections of the Rules of this Regulation.

Owner/Operator: Includes, but is not limited to, any person who leases, supervises, or operates equipment, in addition to the normal meaning of owner or operator.

Palliative: Any dust control agent used to lessen or reduce dust emissions.

Particulate Matter: Any material emitted or entrained into the air as liquid or solid particulates, with the exception of uncombined water. For PM-10, refer to Definition).

Paved Roads: An improved street, highway, alley, public way, or easement that is covered by concrete, asphaltic concrete, asphalt, or other materials which provide a permanent stable surface.

Person: Any individual, public and private corporation, government agency, partnership, association, firm, trust, estate, or any other legal entity which is recognized by law as the subject of rights and duties.

PM-10: Particulate matter with an aerodynamic diameter smaller than or equal to a nominal ten (10) microns as measured by the applicable State and Federal reference test methods.

Reasonably Available Control Measures: Techniques used to limit the emission and/or airborne transport of fugitive dust from a site including: application of water, chemical stabilizers/suppressants, soil stabilizers, or other liquids, covering, paving, enclosing, shrouding, compacting, planting, cleaning, or such other measures the Air Pollution Control Officer may approve to accomplish satisfactory results for temporary and/or extended suppression of PM-10 emissions.

Road: Any paved or unpaved, public or private street, highway, freeway, alley way, access drive, access easement, haul road, or driveway.

Site: Real property or land used or set aside for any specific use.

Unpaved Roads: An open way that is not covered by one of the materials described in the paved road definition.

Vehicle: Any device by which any person or property may be propelled, moved, or drawn, excepting aircraft or watercraft or devices moved exclusively by human or animal power or used exclusively upon rails or tracks.

RULE 226 - DUST CONTROL

Visible Dust Emission: Visible dust of such opacity as to obscure an observer's view to a degree equal to or greater than an opacity of 20%, for a period or periods aggregating more than three (3) minutes in any one (1) hour.

PART 3.0 STANDARDS

3.1 General Requirements:

Any person shall take all reasonable precautions to prevent dust emissions. Reasonable precautions may include, but are not limited to, cessation of operations, cleanup, sweeping, sprinkling, compacting, enclosure, chemical or asphalt sealing, and use of wind screens or snow fences.

- A. No person may disturb the topsoil or remove ground cover on any real property and thereafter allow the property to remain unoccupied, unused, vacant or undeveloped unless reasonable precautions are taken to prevent generation of dust. A dust control plan must be submitted to and approved by the Air Pollution Control Officer before topsoil is disturbed on any project where more than one (1) acre of natural surface area is to be altered or where the natural ground cover is removed. In the dust control plan, the Air Pollution Control Officer may require use of palliatives, reseeding, or other means to minimize windblown dust.
- B. For any proposed development, division of land, special use permit application of zone change, the Air Pollution Control Officer may require the applicant to submit soils data and any other pertinent data for the area in which the development is proposed.
- C. If a determination is made that the disturbance (per 3.1.A.) or development (per 3.1.B.) of the site may cause the generation of dust, the Air Pollution Control Officer may require:
 - 1. Phased clearing of the land
 - 2. The use of palliatives
 - 3. The use of water
 - 4. The use of snow fencing
 - 5. The use of wind screen
 - 6. Reseeding
 - 7. Controls of single lot development approved as a part of a land subdivision subject to these regulations.

After commencement of development, if the approved elements of the dust control plan prove ineffective, the Air Pollution Control Officer may require additional control measures to be instituted. Phasing will not be required as a control strategy after a project is under construction.

RULE 226 - DUST CONTROL

In the case of subdivisions, condominiums and planned unit developments, a dust control plan must be submitted as part of the final map approval process.

If a development requires a special use permit, the Air Pollution Control Officer may require the dust control plan to be submitted and become a condition of the special use permit process.

- D. No person shall cause or allow the handling or storage of any materials on a manner which results, or may result in the generation of dust.
- E. Any vehicle operating on a paved roadway with a load of any bulk material susceptible to being dropped, spilled, leaked, or otherwise escaping therefrom and being entrained in the air, must take one of the following control measures:
 - 1. Six (6) inches of freeboard is maintained within the bed of the vehicle. For the purposes of this regulation, "freeboard" means the vertical distance from the highest portion of the edge of the load to the lowest part of the rim of the truck bed.
 - 2. Materials contain enough moisture to control dust emissions from the point of origin to their final destination. Whenever possible, the use of dust suppressants must be applied in conjunction with the water.
 - 3. In the event that measures 1 or 2 are ineffective in preventing materials from escaping, tarps or other cargo covers shall be employed.

This section does not prohibit a public maintenance vehicle from depositing sand on a paved roadway to enhance traction, or sprinkling water or other substances to clean or maintain a highway.

- F. Paved entry aprons or other effective cleaning techniques (e.g., wheel washers), may be required by the Air Pollution Control Officer to prevent tracking onto paved roadways. Paved entry aprons may include road section or coarse aggregate or steel grate to "knock off" dirt which accumulates on the vehicle and/or vehicle wheels.

Any material which is tracked onto a paved roadway must be removed (swept or washed) as quickly and as safely as possible. Exceptions to this provision may be made by the Air Pollution Control Officer for the construction, maintenance, and/or repair of paved roadways and for the application of de-icing and traction materials for wintertime driving safety.

PART 4.0 ADMINISTRATIVE REQUIREMENTS

4.1 Correction of Condition:

If the Air Pollution Control Officer documents that a person is in non-compliance with any of the provisions contained in Subsection 3.1, he will notify the person of that fact and specify a period of time in which the

RULE 226 - DUST CONTROL

person must achieve compliance. Failure to comply within 24 hours or as the time determined by the Air Pollution Control Officer constitutes grounds for a Notice of Violation (NOV) citation per the District Enforcement Policy.

4.2 Remedial Action:

The Air Pollution Control Officer, after proper notice, may enter upon any real property where dust is being generated and take such remedial and corrective action as he deems necessary.

4.3 Costs:

Any costs incurred in connection with any remedial or corrective action taken by the Air Pollution Control Officer, pursuant to this section, shall be assessed against the owner of the property involved. Failure to pay the full amount of such incurred costs shall result in a lien against the property. The lien shall remain in effect until all costs have been fully paid, which may include, but are not limited to, cost of collection and reasonable attorney fees.

Adopted 5/11/94



**CONTRACTOR/SUBCONTRACTOR
STORM WATER POLLUTION PREVENTION PLAN
CERTIFICATION FORM**

Project Name: _____

Contractor/Subcontractor Name: _____

Contractor/Subcontractor Address: _____

I have reviewed the project Storm Water Pollution Prevention Plan. I understand all of the conditions and requirements therein and I agree to construct this project in accordance with those requirements.

Authorized Representative for Contractor/Subcontractor:

(Please Print Name)

Title

(Signature)

Date



LIST OF SUBCONTRACTORS

The general contractor awarded the construction contract shall complete the following list. The general contractor and all subcontractors shall complete the corresponding certification form.

Subcontractor	Contact Person and Phone #	Scope of Work	SWPPP Reviewed Y/N
1)			
2)			
3)			
4)			
5)			
6)			
7)			
8)			
9)			
10)			



Notice of Non-Compliance

The District has determined that the activities described below constitute a violation of the Stormwater Pollution Prevention Plan (SWPPP) for the subject project. The Contractor shall take immediate steps to correct the problem and bring the project into compliance with the SWPPP.

Project: _____

Contractor: _____

Location of Violation: _____

Date of Violation: _____ Date of Notice: _____

Description of Violation - Attach Photographs Documenting Violation and Note Applicable BMPs:

Actions to be Taken by the CONTRACTOR

Written By: _____
For the DISTRICT Title

Acknowledged By: _____
For the CONTRACTOR Title

SECTION 01600

PRODUCTS, MATERIALS, EQUIPMENT AND SUBSTITUTIONS

PART 1 -- GENERAL

1.01 DEFINITIONS

- A. The word "Products," as used herein, is defined to include purchased items for incorporation into the Work, regardless of whether specifically purchased for the Project or taken from CONTRACTOR's stock of previously purchased Products.
- B. The word "Materials," is defined as Products which must be substantially cut, shaped, worked, mixed, finished, refined, or otherwise fabricated, processed, installed, or applied to form units of Work.
- C. The word "Equipment" is defined as Products with operational parts, regardless of whether motorized or manually operated, and particularly including Products with service connections (wiring, piping, and other like items).
- D. Definitions given in this section are not intended to negate the meaning of other terms used in the Contract Documents, including "specialties," "systems," "structure," "finishes," "accessories," "furnishings," "special construction," and similar terms, which are self-explanatory and have recognized meanings in the construction industry.
- E. Neither "Products" nor "Materials" nor "Equipment" includes machinery and equipment used for preparation, fabrication, conveying and erection of the WORK.

1.02 QUALITY ASSURANCE

- A. **Source Limitations:** To the greatest extent possible for each unit of Work, the CONTRACTOR shall provide Products, Materials, and Equipment of a singular generic kind from a single source.
- B. **Compatibility of Options:** Where more than one choice is available as options for CONTRACTOR's selection of a Product, Material, or Equipment, select an option which is compatible with other Products, Materials, or Equipment. Compatibility is a basic general requirement of Product, Material and Equipment selections.

1.03 PRODUCT DELIVERY AND STORAGE

- A. The CONTRACTOR shall deliver and store the WORK in accordance with manufacturer's written recommendations and by methods and means that will prevent damage, deterioration, and loss including theft. Delivery schedules shall be controlled to minimize long-term storage of Products at Site and overcrowding of construction spaces. In particular, ensure coordination to ensure minimum holding or storage times for

flammable, hazardous, easily damaged, or sensitive Materials to deterioration, theft, and other sources of loss.

1.04 TRANSPORTATION AND HANDLING

- A. Products shall be transported by methods to avoid damage and shall be delivered in undamaged condition in manufacturer's unopened containers and packaging.
- B. The CONTRACTOR shall furnish Equipment and personnel to handle Products, Materials, and Equipment, including those provided by DISTRICT, by methods to prevent soiling and damage.
- C. The CONTRACTOR shall provide any additional protection necessary during handling to prevent marring and otherwise damaging Products, packaging, and surrounding surfaces.

1.05 STORAGE AND PROTECTION

- A. Products shall be stored in accordance with manufacturer's written instructions and with seals and labels intact and legible. Sensitive Products shall be stored in weather-tight climate controlled enclosures and temperature and humidity ranges shall be maintained within tolerances required by manufacturer's recommendations.
- B. For exterior storage of fabricated Products, Products shall be placed on sloped supports above ground. Products subject to deterioration shall be covered with impervious sheet covering and ventilation shall be provided to avoid condensation.
- C. Loose granular materials shall be stored on solid flat surfaces in a well-drained area and shall be prevented from mixing with foreign matter.
- D. Storage shall be arranged to provide access for inspection. Periodically inspect to assure Products are undamaged and are maintained under required conditions.
- E. Storage shall be arranged in a manner to provide access for maintenance of stored items and for inspection.

1.06 MAINTENANCE OF STORAGE

- A. Stored Products shall be periodically inspected on a scheduled basis. Maintain a log of inspections and make the log available on request.
- B. The CONTRACTOR shall comply with manufacturer's Product storage requirements and recommendations.
- C. The CONTRACTOR shall maintain manufacturer-required environmental conditions continually.

- D. The CONTRACTOR shall ensure that surfaces of Products exposed to the elements are not adversely affected and that weathering of finishes does not occur.
- E. For mechanical and electrical Equipment, the CONTRACTOR shall provide a copy of the manufacturer's service instructions with each item and the exterior of the package shall contain notice that instructions are included.

1.07 PROPOSED SUBSTITUTIONS OR "OR-EQUAL" ITEM

- A. Whenever materials or equipment are indicated in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the naming of the item is intended to establish the type, function, and quality required. If the name is followed by the words "or equal" indicating that a substitution is permitted, materials or equipment of other suppliers may be accepted if sufficient information is submitted to allow the DISTRICT to determine that the material or equipment proposed is equivalent or equal to that named, subject to the following requirements:
 - 1. The burden of proof as to the type, function, and quality of any such substitution product, material or equipment shall be upon the CONTRACTOR.
 - 2. The DISTRICT will be the sole judge as to the type, function, and quality of any such substitution and the DISTRICT's decision shall be final.
 - 3. The DISTRICT may require the CONTRACTOR to furnish additional data about the proposed substitution.
 - 4. The DISTRICT may require the CONTRACTOR to furnish a special performance warranty or other surety with respect to any substitution.
 - 5. Acceptance by the DISTRICT of a substitution item shall not relieve the CONTRACTOR of the responsibility for full compliance with the Contract Documents and for adequacy of the substitution.
 - 6. The CONTRACTOR shall be responsible for resultant changes including design and construction changes resulting from the changes which the accepted substitution requires in the CONTRACTOR's WORK, the WORK of its Subcontractors and of other contractors.
- B. If the name of a proprietary item or the name of a particular Supplier is not followed by the words "or equal", substitutions are not allowed and the specified product shall be furnished by the CONTRACTOR with the following exceptions:
 - 1. In the event that a named Supplier is no longer doing business under the name indicated, the specified product from the legal successors to the named Supplier shall be furnished.
 - 2. In the event that a named product is no longer available from the named Supplier due to acquisition or sale of the given product line, but the product is available from another Supplier, the CONTRACTOR shall provide the named product. In such cases, the CONTRACTOR shall submit a Substitution Request Form and shall include certification from the Supplier that product being supplied is materially and functionally identical to the product named in the Contract Documents.
 - 3. In the event that a named product is no longer available from the named Supplier or any other Supplier, the CONTRACTOR shall notify the DISTRICT in writing and the DISTRICT shall identify suitable substitute products. The CONTRACTOR shall provide one of the suitable substitute products.

- C. The procedure for review of proposed substitutions by the DISTRICT will include the following:
1. If the CONTRACTOR wishes to provide a substitution item, make written application to the DISTRICT on the "Substitution Request Form."
 2. Unless otherwise provided by law or authorized in writing by the DISTRICT the "Substitution Request Form(s)" shall be submitted within the 35-day period after Notice to Proceed.
 3. Wherever a proposed substitution item has not been submitted within said 35-day period, or wherever the submission of a proposed substitution material or equipment has been judged to be unacceptable by the DISTRICT, the CONTRACTOR shall provide the material or equipment indicated in the Contract Documents.
 4. The CONTRACTOR shall certify that the proposed substitution will perform adequately the functions and achieve the results called for by the general design, and be similar and of equal substance to that indicated, and be suited to the same use as that indicated.
 5. The DISTRICT will evaluate each proposed substitution within a reasonable period of time.
 6. As applicable, no shop drawing submittals shall be made for a substitution item nor shall any substitution item be ordered, installed, or utilized without the DISTRICT'S prior written acceptance of the CONTRACTOR's "Substitution Request Form."
 7. The DISTRICT will record the time required by the DISTRICT in evaluating substitutions and in making changes by the CONTRACTOR in the Contract Documents occasioned thereby.
- D. The CONTRACTOR's application using the "Substitution Request Forms" shall contain the following statements and information which will be considered by the DISTRICT in evaluating the proposed substitution:
1. The evaluation and acceptance of the proposed substitution shall not prejudice the CONTRACTOR's achievement of substantial completion on time.
 2. Whether or not acceptance of the substitution for use in the WORK will require a change in any of the Contract Documents to adapt the design to the proposed substitution.
 3. Whether or not incorporation or use of the substitution in connection with the WORK is subject to payment of any license fee or royalty.
 4. Information in the substitution request shall be organized in the format required for submittals as described in Section 01300-Contractor Submittals. Non-compliant substitution requests will not be reviewed.
 5. All variations of the proposed substitution from the items originally indicated shall be identified.
 6. Available maintenance, repair, and replacement service shall be indicated. The manufacturer shall have a local service agency (within 120 miles of the Site) which maintains properly trained personnel and adequate spare parts and is able to respond and complete repairs within 24 hours.
 7. Itemized estimate of all costs that will result directly or indirectly from acceptance of such substitution, including cost of redesign and claims of other contractors affected by the resulting change.

- E. Without any increase in cost to the DISTRICT, the CONTRACTOR shall be responsible for and pay all costs in connection with proposed substitutions and of inspections and testing of equipment or materials submitted for review prior to the CONTRACTOR's purchase thereof for incorporation in the WORK, whether or not the DISTRICT accepts the proposed substitution or proposed equipment or material. The CONTRACTOR shall reimburse the DISTRICT for the charges of the DISTRICT, and other authorized representatives for evaluating each proposed substitution and costs for any additional inspection caused by the substitution.

PART 2 -- PRODUCTS (Not Used)

PART 3 -- EXECUTION (Not Used)

- END OF SECTION -



Substitution Request Form

Project: _____ Date: _____

Specified Item: _____

Section	Page	Paragraph	Description
Proposed Substitution:			

Attached data includes product description, specifications, drawings, photographs, performance and test data adequate for evaluation of the request. Applicable portions of the data are clearly identified.

The undersigned states that the following paragraphs, unless modified on attachments, are correct:

1. The proposed substitution does not affect dimensions shown on Drawings and will not require a change in any of the Contract Documents.
2. The undersigned will pay for changes to the design, including engineering design, detailing, and construction costs caused by the request substitution which is estimated to be \$_____.
3. The proposed substitution will have no adverse affect on Subcontractors, other contractors, the construction schedule (specifically the date of substantial completion), or specified warranty requirements.
4. Maintenance and service parts will be locally available for the proposed substitution.
5. The incorporation or use of the substitute in connection with the Work is not subject to payment of any license fee or royalty.

The undersigned further states that the function, appearance, and quality of the Proposed Substitution are equivalent or superior to the Specified item.

Submitted by **CONTRACTOR**:

Reviewed by **DISTRICT**:

Signature: _____	☐ Accepted	☐ Accepted as Noted
Title: _____	☐ Not Accepted	☐ Received too Late
Firm: _____	By: _____	Title: _____
Date: _____	Date: _____	

Attachments: _____

SECTION 01757

DISINFECTION

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Cleaning and disinfection requirements for new and existing facilities affected by the Work.

1.02 REFERENCES

- A. American Water Works Association (AWWA):
 - 1. C651 - Disinfecting Water Mains.
 - 2. C652 - Disinfection of Water Storage Facilities.
 - 3. C653 - Disinfection of Water Treatment Plants.
 - 4. C655 - Field Dechlorination.
- B. U.S. Environmental Protection Agency (EPA):
 - 1. Safe Drinking Water Act (SDWA).

1.03 SUBMITTALS

- A. Disinfection test plan, detailing the procedure to be utilized to disinfect the facilities, including:
 - 1. Method and locations of disinfectant application.
 - 2. Locations of sampling points.
 - 3. Method of flushing and location of flushing ports (as appropriate for method of chlorination).
 - 4. Method of dechlorination (as appropriate for method of chlorination).
 - 5. Disposal location for chlorinated water (as appropriate for method of chlorination).
- B. Disinfection reports, including the following:
 - 1. Date issued.
 - 2. Project name and location.
 - 3. Treatment subcontractor's name, address, and phone number.
 - 4. Type and form of disinfectant used.
 - 5. Time and date of disinfectant injection start.
 - 6. Time and date of disinfectant injection completion.
 - 7. Test locations.
 - 8. Initial and 24-hour disinfectant residuals in milligrams per liter for each outlet tested.
 - 9. Time and date of flushing start.
 - 10. Time and date of flushing completion.
 - 11. Disinfectant residual after flushing in milligrams per liter for each outlet tested.

- C. Required permits, including, but not limited to, permit clearance.
 - 1. Coordinate with the Owner and Engineer to obtain any necessary signatures.

1.04 QUALITY ASSURANCE

- A. Bacteriological and physical chemistry laboratory: To be conducted by TDPUD.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Protect chlorine and bacteriological samples against damage and contamination.
- B. Maintain caution labels on hazardous materials.
- C. Maintain storage room dry and with temperatures as uniform as possible between 60 degrees Fahrenheit and 80 degrees Fahrenheit.

1.06 PROTECTION

- A. Provide necessary signs, barricades, and notices to prevent persons from accidentally consuming water or disturbing system being treated.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Disinfectant: Free chlorine in liquid, powder, tablet, or gas form in accordance with AWWA C653.
- B. Dechlorination agent: Sulfur dioxide, sodium bisulfate, sodium sulfite, or sodium thiosulfate, in accordance with AWWA C655.

PART 3 EXECUTION

3.01 DISINFECTION OF WATER TANKS

- A. Perform disinfection of water treatment plants in accordance with AWWA C653 and as specified in this Section.
- B. Complete hydrostatic/leakage tests prior to disinfection.
- C. Clean newly constructed and/or modified facilities in accordance with AWWA C653 and the following:
 - 1. Remove debris and material not associated with the structure or process prior to disinfection.
 - 2. Clean wall, floor, ceiling, and attached surfaces by use of high-pressure water jet, sweeping, scrubbing, or equally effective means.
 - 3. Remove water, paint flakes, sediment, dirt, and foreign material accumulated during cleaning.

4. Remove by flushing or other means, soil and debris from water pipes in accordance with AWWA C651.
 5. Protect surfaces from adverse environmental exposure between the preliminary cleaning and the disinfection stages.
- D. Prior to chlorination, clean newly constructed and/or modified facilities to be disinfected in accordance with AWWA C651, C652, or C653, as applicable.
- E. Provide necessary blind flanges, hoses, sample taps, or any other appurtenances that may be required to clean and disinfect the piping and wetted surfaces.
- F. System treatment:
1. Start disinfection when conditions are satisfactory.
 2. Perform disinfection of water lines and structures in accordance with AWWA C651, C652, and C653, and as specified in this Section.
 3. Starting at outlet closest to water source, bleed water from each outlet until water produces odor of disinfectant. Repeat process at each outlet throughout system.
 4. Test for disinfectant residual at each of following locations and other locations in accordance with submitted disinfection test plan:
 - a. Ends of piping runs.
 - b. Remote outlets.
 - c. Tanks.
 - d. At least 2 outlets on each building floor where directed.
 - e. Drain lines.
 5. Maintain disinfectant in system for appropriate 6-hour or 24-hour interval in accordance with AWWA C652.
 6. When disinfectant residual is less than 10 milligrams per liter after 24 hours, repeat system treatment.

3.02 SURFACES TO BE DISINFECTED

- A. Disinfect the following:
1. Water storage tanks.
 2. Wetted surfaces associated with conveyance elements.
 3. Any existing wetted surface downstream of the tank that may have been contaminated during the construction process.
 4. Piping systems that are used to convey water, solutions, or chemicals to potable water facilities.

3.03 DISINFECTION OF WATER STORAGE FACILITIES

- A. Perform disinfection in accordance with AWWA C652 and as specified in this Section.
- B. Test for disinfectant residual at locations as specified in the disinfection test plan:
1. Inlet and outlet piping.
 2. Drain line.

- C. Maintain disinfectant in system for appropriate 6-hour or 24-hour interval in accordance with AWWA C652.
- D. When disinfectant residual is less than 2 parts per million after 24 hours, repeat system treatment.
- E. After the disinfection test, clean the interior of the tank and perform the following 5-day VOC test:
 - 1. Fill the up entire reservoir with potable water.
 - 2. Let the water sit undisturbed for 5 days.
 - 3. Sample and test the water in the reservoir in accordance with EPA Method 524.2.
 - 4. Verify that VOC levels in the reservoirs are below federal and state maximum contaminant levels prior to disinfection of the reservoir.

3.04 REPAIRS OR CONNECTIONS TO EXISTING LINES

- A. Perform disinfection in accordance with AWWA C651 and as specified in this Section.
- B. Clean and sterilize the interior surfaces of new piping, fittings, equipment, and appurtenances to be installed in an existing potable water system or connected to an existing system.
- C. Clean and sterilize the existing pipe or facilities for a minimum distance of 3 pipe diameters back from the ends of the pipe. Plug the ends of the line when work is not being performed on the pipe.
- D. Perform sterilization by swabbing each item with a concentrated chlorine solution.
 - 1. Each piece is to be disinfected prior to being assembled for installation in the existing pipe.
 - 2. Disinfect each piece just prior to assembly to help prevent recontamination.
 - 3. Plug the ends of the assembly until a new item is to be added to the assembly.
 - 4. Store disinfected materials on blocks to prevent contact with the ground.

3.05 FLUSHING

- A. Remove disinfection water from the facilities as appropriate for the type of disinfectant and method used for disinfection.
- B. Flush facilities with potable water containing no more disinfectant residual than the active distribution system or 1 milligram per liter, whichever is greater, as appropriate for method of chlorination.
- C. Continue flushing until water at designated flushing ports contains disinfectant residual equal to concentration specified above.

3.06 DISPOSAL OF CHLORINATED WATER

- A. Dispose in accordance with AWWA C655 and as specified in this Section.
- B. Dispose of chlorinated water in accordance with the submitted disinfection test plan and applicable requirements of federal, state, county, and city having jurisdiction over disposal of hazardous wastes in the location of the Project and disposal site.
- C. Chlorinated water may only be disposed of in a sanitary sewer system with the written permission of the Owner. If allowed, discharge the chlorinated water at a low rate so it does not surcharge the sewer line.

3.07 BACTERIOLOGICAL TEST

- A. Notify TDPUD to collect water samples no sooner than 24 hours after start of disinfection of each facility.
- B. For water mains, collect 2 sets of samples for testing for total coliform in accordance with AWWA C651 as outlined below:
 - 1. Option A: Before approving a main for release, take an initial set of samples and then resample again after a minimum of 16 hours using the sampling site procedures outlined.
 - a. Both sets of samples must pass for the main to be approved for release.
 - 2. Option B: Before approving a main for release, let it sit for a minimum of 16 hours without any water use. Then collect, using the sampling site procedures outlined and without flushing the main, 2 sets of samples a minimum of 15 minutes apart while the sampling taps are left running.
 - a. Both sets of samples must pass for the main to be approved for release.
- C. Collect bacteriological quality samples at each of the following locations and other locations in accordance with the submitted disinfection test plan and Standard Methods for the Examination of Water and Wastewater:
 - 1. Where water enters system.
 - 2. Inlet piping.
 - 3. Ends of piping runs.
 - 4. Drain lines.
 - 5. Remote outlets.
 - 6. Tanks.
 - 7. At least 2 outlets on each building floor.
- D. Analyze water samples in accordance with Standard Methods for Examination of Water and Wastewater.
- E. When bacteriological test proves water quality to be unacceptable, repeat disinfection treatment process until water meets quality standards for disinfection.

END OF SECTION

SECTION 01770
CLOSEOUT PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Contract closeout requirements.

1.02 REFERENCES

- A. American Water Works Association (AWWA).

1.03 FINAL CLEANING

- A. Perform final cleaning prior to inspections for Final Completion.
- B. Employ skilled workers who are experienced in cleaning operations.
- C. Use cleaning materials which are recommended by manufacturers of surfaces to be cleaned.
- D. Prevent scratching, discoloring, and otherwise damaging surfaces being cleaned.
- E. Clean roofs, gutters, downspouts, and drainage systems.
- F. Broom clean exterior paved surfaces and rake clean other surfaces of site work:
 - 1. Police yards and grounds to keep clean.
- G. Remove dust, cobwebs, and traces of insects and dirt.
- H. Clean grease, mastic, adhesives, dust, dirt, stains, fingerprints, paint, blemishes, sealants, plaster, concrete, and other foreign materials from sight-exposed surfaces, and fixtures and equipment.
- I. Remove non-permanent protection and labels.
- J. Probes, elements, sample lines, transmitters, tubing, and enclosures have been cleaned and are in like-new condition.

1.04 WASTE DISPOSAL

- A. Arrange for and dispose of surplus materials, waste products, and debris offsite:
 - 1. Prior to making disposal on private property, obtain written permission from the Owner of such property.
- B. Do not fill ditches, washes, or drainage ways which may create drainage problems.

- C. Do not create unsightly or unsanitary nuisances during disposal operations.
- D. Maintain disposal site in safe condition and good appearance.
- E. Complete leveling and cleanup prior to final completion of the Work.

1.05 TOUCH-UP AND REPAIR

- A. Touch-up or repair finished surfaces on structures, equipment, fixtures, and installations that have been damaged prior to inspection for Final Completion.
- B. Refinish or replace entire surfaces which cannot be touched-up or repaired satisfactorily.

1.06 CLOSEOUT DOCUMENTS

- A. Submit the following before Substantial Completion:
 - 1. Punch list of items to be completed or corrected with the request for issuance of Substantial Completion.
 - 2. Evidence of Compliance with Requirements of Governing Authorities.
 - 3. Project Record Documents.
 - 4. Approved Operation and Maintenance Manuals.
 - 5. Approved Warranties and Bonds.
 - 6. Keys and Keying Schedule.
 - 7. Completed Contract requirements for Commissioning and process Start-Up.
- B. Submit the following before final completion of the Work and at least 7 days prior to submitting Application for Final Payment:
 - 1. Punch list items have been completed and the Engineer and Owner are satisfied that all deficiencies are corrected.
 - 2. Evidence of Payment and Release of Liens or Stop Payment Notices as outlined in Conditions of the Contract.
 - 3. Release of claims as outlined in Conditions of the Contract.
 - 4. Submit certification of insurance for products and completed operations, as specified in the General Conditions.
 - 5. Final statement of accounting.
 - 6. Submit Final (As-Built) Schedule as specified in Section 01310 - Construction Progress Schedule.

1.07 MAINTENANCE SERVICE

- A. As specified in Technical Specifications.

1.08 SUBSTANTIAL COMPLETION

- A. Obtain Certificate of Substantial Completion.

1.09 FINAL COMPLETION

- A. When the Contractor considers the Work is complete, submit written certification that:
 - 1. Work has been completed in accordance with the Contract Documents.

2. Punch list items have been completed or corrected.
 3. Work is ready for final inspection.
- B. Engineer will make an inspection to verify the status of completion with reasonable promptness.
- C. Should the Engineer consider that the Work is incomplete or defective:
1. Engineer will promptly notify the Contractor in writing, listing the incomplete or defective Work.
 2. Contractor shall take immediate steps to remedy the stated deficiencies and send a second written certification to the Engineer that the Work is complete.
 3. Engineer shall re-inspect the Work.

1.10 FINAL ADJUSTMENT OF ACCOUNTS

- A. Submit a final statement of accounting to the Engineer at least 7 days prior to final Application for Payment.
- B. Statement shall reflect all adjustments to the Contract amount.
1. The original Contract amount.
 2. Additions and deductions resulting from:
 - a. Change Orders.
 - b. Units installed and unit prices.
 - c. Set-offs for uncorrected or incomplete Work.
 - d. Set-offs for liquidated damages.
 - e. Set-offs for reinspection payments.
 - f. Extended engineering and/or inspection services and inspection overtime.
 - g. Excessive Shop Drawings review cost by the Engineer.
 - h. Other adjustments.
 3. Total Contract amount, as adjusted.
 4. Previous payments.
 5. Remaining payment due.
- C. Engineer will prepare a final Change Order reflecting approved adjustments to the Contract amount which were not previously made by Change Orders.

1.11 FINAL APPLICATION FOR PAYMENT

- A. Submit the final Application for Payment reflecting the agreed upon information provided in the final statement of accounting.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01850
DESIGN CRITERIA

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Design criteria for use in the selection of equipment and appurtenances specified in Technical Sections of these Specifications.
 - 2. Criteria for design of systems, components and equipment fabricated offsite and shipped to the Work for installation.
 - 3. Criteria for design of anchors to connect equipment and appurtenances to supports and structures.
- B. The criteria in this Section apply throughout the Work, unless additional criteria, or more restrictive criteria, are indicated.
 - 1. Additional criteria and requirements relevant to specific locations, specific materials, and specific equipment are in the Technical Sections.

1.02 REFERENCES

- A. American Society of Civil Engineers (ASCE):
 - 1. 7-22 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures. (ASCE 7).
- B. American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE):
 - 1. ASHRAE Fundamentals Handbook.
- C. International Code Council (ICC):
 - 1. International Energy Conservation Code (IECC).
 - 2. International Plumbing Code (IPC).
- D. American Water Works Association:
 - 1. D103 - Standard for Bolted Steel Water Tanks.

PART 2 PRODUCTS

2.01 DESIGN CRITERIA - SITE INFORMATION

- A. Site name: Donner Trails Tank No.2.
 - 1. Street address: As specified in Section 01010 - Summary of Work.
 - 2. Site elevation (approximate):
 - a. 6100 feet above mean sea level.

2.02 DESIGN CRITERIA - OPERATING ENVIRONMENT

- A. Technical Sections include additional criteria and requirements relevant to specific locations, materials, and equipment.
- B. Outdoor conditions:
 - 1. IECC: Climate Zone 16.
 - 2. Temperature criteria: As specified in the following Table: Design Temperatures - Outdoor Criteria in Accordance with ASHRAE Fundamentals Handbook.

Table: Design Temperatures - Outdoor Criteria in Accordance with ASHRAE Fundamentals Handbook	
Condition	Criteria
Daily Mean Range:	42.5 degrees Fahrenheit.
Winter:	At or above this temperature 99.6 percent of the time: 11.9 degrees Fahrenheit dry-bulb.
Summer:	At or above this temperature 0.4 percent of the time: 95.7 degrees Fahrenheit dry-bulb.

- 3. Rainfall intensity:
 - a. Reference: International Plumbing Code (IPC):
 - 1) 1.49 inches per hour (100-year, 1-hour rainfall).

2.03 DESIGN CRITERIA - STRUCTURAL

- A. General:
 - 1. Criteria for structural design of:
 - a. Equipment at locations subject to seismic events.
 - b. Equipment exposed to outdoor environments.
 - c. Equipment supports and bracing, and anchorage of such items to building and non-building structures.
 - d. Structures provided for the Work through Delegated Design.
 - e. Manufactured and prefabricated structures, and anchorage of such structures to foundations or other supporting elements.
- B. Structure risk category:
 - 1. Develop design loads and provide detailing in accordance with the provisions of ASCE 7 and the building code specified in Section 01090 - Reference Standards, based on the Structure Risk Category indicated in Table: Project Structures - Risk Category and Seismic Design Information.
- C. Seismic loads:
 - 1. Seismic design parameters: Basic parameters - ASCE 7:
 - a. Ground motion MCE_R , 5 percent damped:
 - 1) Short periods, $S_s = 1.82$ g.
 - 2) 1 second period, $S_1 = 0.51$ g.
 - b. Peak ground acceleration, MCE_G :
 - 1) Peak ground acceleration, $PGA = 0.71$ g.
 - c. Mapped long-period transition period:
 - 1) $TL = 6$ seconds.

2. Structures - General:
 - a. Seismic Design Category (SDC): As indicated in the following Table:
Project Structures - Risk Category and Seismic Design Information.

Table: Project Structures - Risk Category and Seismic Design Information						
Description: Water Storage Tank						
Area	Description	Risk Category	Site Class	S_{DS}	S_{D1}	Seismic Design Category⁽¹⁾
	All Structures	IV	Default	1.32	0.83	D
Notes: (1) Seismic Design Category for Delegated Design, and for seismic certification of electrical and mechanical equipment as required by ASCE 7.						

- b. Structure response modification coefficient, R:
 - 1) In accordance with ASCE 7 and the requirements of the Technical Sections.
 3. Structures - Tanks and vessels.
 - a. Includes: Tank structures, tank supports, and anchorage to structures or foundations.
 - b. Liquid storage structures (e.g., basins and tanks).
 - 1) Include impulsive and convective (sloshing) effects.
 - 2) Component response modification factor - impulsive effects, R_i: In accordance with ASCE 7, Table 15.4-2.
 - 3) Component response modification factor - convective effects, R_c = 1.0.
 - c. Dry material storage structures (e.g., silos, hoppers):
 - 1) Include effects of stored materials.
 - 2) Component response modification factor - impulsive effects, R_i: In accordance with ASCE 7, Table 15.4-2.
 4. Non-structural components - General:
 - a. Includes:
 - 1) Mechanical and electrical equipment; anchorage of equipment to structures or supports; design of supports; and anchorage of supports to structures or foundations.
 - 2) Distribution systems associated with mechanical and electrical equipment such as piping, ductwork, conduits, cable trays, raceways, bus ducts, and similar items; anchorage of such systems to supports and structures; and bracing or such systems.
 - b. Seismic design requirements for non-structural components are based on the Seismic Design Category (SDC) of the structure or facility where the equipment is installed.
 - c. Design components, component anchorage, and component connections to piping and utilities in accordance with the requirements of ASCE 7, Table 13.2-1.

- d. Component amplification factor (a_p), response factor (R_p), and overstrength factor for anchorage to concrete (Ω_o):
 - 1) Mechanical and electrical components and systems: In accordance with ASCE 7, Table 13.6-1, unless otherwise indicated in the Technical Sections for these items.
 - 2) Architectural components and systems: In accordance with ASCE 7, Table 13.6-1, unless otherwise indicated in the Technical Sections for these items.
- e. Component importance factor, I_p :
 - 1) In accordance with the following Table: Component Importance Factor for Seismic Design, I_p .
 - 2) For items not listed in Table: Component Importance Factor for Seismic Design, I_p , designate importance factor in accordance with the provisions of ASCE 7, Chapter 13, and submit to the Engineer for review prior to developing calculations and details related to that component.

Table: Component Importance Factor for Seismic Design, I_p		
Structure Seismic Design Category	Components	I_p
All	Electrical: Items and distribution system components specified in Division 16 - Electrical.	1.5
All	Process Control and Instrumentation Systems: Components and distribution systems specified in Division 17 - Instrumentation and Controls.	1.5
All	Equipment and components specified in Divisions 11 through 15, <u>except</u> HVAC and plumbing components listed below.	1.5
All	Plumbing equipment specified in the following Sections:	1.0
All	HVAC equipment specified in the following Sections:	1.0
All	Other equipment not listed above.	1.0

- 5. Non-structural components: HVAC ductwork.
 - a. Component importance factor, I_p : Determine in accordance with ASCE 7, Section 15.4.1.1.
 - b. Seismic design category:
 - 1) See Table: Component Importance Factor for Seismic Design, I_p (preceding).
 - c. SMACNA seismic hazard level.
 - 1) Seismic hazard level for design of heating, ventilating, and air conditioning ductwork in accordance with SMACNA Seismic Restraint Manual:
 - a) SMACNA Seismic hazard level = A.

- D. Wind loads:
1. Design structures and non-structural components that are exposed to wind to withstand design wind loads.
 - a. Reduction of wind loads based on shielding effects of surrounding structures or components is not allowed.
 - b. Design for wind loading is not required for non-structural components and for non-building structures located inside enclosed buildings.
 2. Design parameters:
 - a. Basic wind speed:
 - 1) 130 miles per hour (33 feet, 3 second gust).
 - b. Exposure category: C.
 - c. Topographic factor, K_{zt} : 1.0.
 - d. Wind pressure for design of components and cladding.
 - 1) Components and cladding includes doors, windows, siding panels, skylights, parapets and similar architectural elements.
- E. Snow loads:
1. Design for snow loading is not required for non-structural components and for non-building structures located inside enclosed buildings.
 2. Design parameters:
 - a. Ground snow load: $p_g = 197$ pounds per square foot.
 - b. Drifting:
 - 1) Consider effects of adjacent and nearby structures and equipment on drift loads.
- F. Rainfall loads:
1. Determine rainfall loads using rainfall intensity specified in this Section and including effects of exposed surface slope, height above surface to discharge elevation, and deflection of ponded surfaces.
- G. Operational loads:
1. Loads may include equipment vibration, torque, thermal effects, effects of internal contents (weight and sloshing), surge or water hammer, and other load conditions.
 2. Design for loads indicated by the equipment manufacturer.
 3. Design for loads indicated in the Technical Sections for equipment and appurtenances.
- H. Serviceability considerations: ASCE 7-22:
1. Deflection, unless otherwise or specified:
 - a. Beam deflection as fraction of span:
 - 1) Walkways and platforms: Total load = $L/240$; live load = $L/360$.
 - 2) Equipment supports: $L/450$.

PART 3 EXECUTION

3.01 GENERAL

- A. Design approach and criteria in accordance with:
 - 1. Regulatory requirements, including, but not limited to, the building code specified in Section 01090 – Reference Standards.
 - 2. Reference standards and project-specific design criteria listed in this Section.
 - 3. Specific requirements for individual elements and components of the Work as specified in subsequent Technical Sections.
- B. In the event of conflicts between design criteria, contact Engineer for interpretation.

3.02 DELEGATED DESIGN

- A. Where Delegated Design is required by the Technical Sections, prepare and submit designs as specified and stamped by a registered California Professional Engineer.
- B. Calculations:
 - 1. Where submittal of calculations is required:
 - a. Provide complete calculations, including sketches to illustrate the design concepts being evaluated, and details to fully describe proposed construction.
 - 2. Requirements for seismic design calculations will be waived for the following:
 - a. Furniture and storage racks 6 feet in height or less.
 - b. Moveable equipment.
 - c. Mechanical and electrical equipment and components located in structures designated as Seismic Design Category A or B.
 - d. Mechanical and electrical equipment and components located in structures designated as Seismic Design Category C and where the component importance factor, I_p , is equal to 1.0.
 - 3. Requirements for wind design calculations will be waived for the following:
 - a. Equipment and components located inside structures, and away from the effects of wind loads.
- C. Shop Drawings:
 - 1. Describing components and manufacturer's requirements for connections.
 - a. Include details for connections of components to structures and supports.
 - b. Include details for anchoring bracing to structures where required.

3.03 DESIGN - ANCHORS FOR EQUIPMENT, COMPONENTS, AND BRACING

- A. General:
 - 1. Engineer's approval of anchor designs is required before placement of construction that supports or provides bracing for anchored equipment and components.
 - a. Prepare anchor designs after the Engineer's approval of the products and layout, and before placement of concrete or masonry that supports them.
 - 2. Adjust equipment pad sizes and add additional anchor confinement reinforcing to provide required strength at anchorage points between equipment and pad, and between pad and structure.

3. Supports and bracing:
 - a. Design and install braces and anchors to transfer forces from equipment and components to the lateral force resisting system of the surrounding structure.
 - b. Anchor and brace piping, ductwork, and electrical distribution components so that lateral or vertical displacement does not result in damage to or failure of essential architectural, mechanical, or electrical equipment.
 - 1) Provide supplementary framing where required to transfer forces.
 - 2) Detail and locate braces and anchors to minimize differential movements between components and structure.
- B. Preparation:
 1. Obtain manufacturer's information:
 - a. Weight and dimensions of components.
 - b. Layout and location of anchors that connect to equipment base plates, sole plates, skids, or pads.
 - c. Sizes of holes for anchors that will be provided in equipment bases or support frames.
- C. Analysis and design:
 1. Perform and submit calculations to determine anchor designs at locations where equipment and equipment supports are connected to the supporting structure.
 - a. Indicate number, size, type, and material for anchors.
 2. In determining forces at locations where equipment is anchored to structures, include effects of:
 - a. Equipment self-weight and operating weight.
 - b. Location of equipment center of mass.
 - c. Forces from equipment operation, including, but not limited to:
 - 1) Effects of internal contents, including weight and sloshing.
 - 2) Effects of thrust, surge, and water hammer where specified.
 - 3) Equipment reactions and operating torque.
 - 4) Equipment vibration.
 - 5) Thermal effects from equipment and from distribution systems connected to the equipment (piping, ducts, and electrical).
 - 6) Other load or displacement inducing conditions.
 - d. Forces on equipment from loads specified in this Section.
 - 1) Include effects of wind, snow, and icing loads where applicable.
 - 2) Design for load combinations indicated in ASCE 7, unless otherwise specified..
 - 3) Seismic and wind loads: For equipment and tanks with weight that varies based on the volume of contained material, determine anchor forces to accommodate the full range of filled, partially filled, and empty conditions.
 3. Determine forces and overturning moments at equipment supports and at locations where supports are anchored to structures.
 - a. Indicate shear force and associated axial force at each anchor.
 4. Do not use friction to resist sliding resulting from seismic or wind forces.
 - a. Resist sliding only by direct application of sliding loads to fasteners as bearing, shear, tension, or compression forces.

5. Using combined shears and axial forces at each anchor, design anchors and anchor groups for ductile failure.
 - a. Ductile failure: Anchor yield before failure of base material, typically concrete or masonry, at the anchor.
6. Anchor selection:
 - a. Provide anchors type specified.
 - b. Where anchors are not specifically indicated, select in accordance with the following:
 - 1) Anchors that resist seismic and wind forces:
 - a) Cast-in-place forged hex-head anchor bolt.
 - 2) Anchors loaded in sustained tension:
 - a) Cast-in-place forged hex-head anchor bolt.
 - 3) Anchors for reciprocating, vibrating, and rotating equipment:
 - a) Cast-in-place forged hex-head anchor bolt.
 - c. Do not use post-installed anchors, mechanical or adhesive, unless:
 - 1) Post-installed are approved by the Engineer prior to placement of the surrounding concrete or masonry.
 - d. Anchor diameter:
 - 1) Select diameter so that hole in base plate is not greater than 125 percent of the nominal diameter of the anchor, nor greater than the diameter of the anchor plus 1/4 inch.
7. Determine number, size, layout, and minimum effective embedment for anchors.
 - a. Layout includes anchor spacing and required distance(s) from anchor to edge(s) of supporting concrete or masonry.
 - b. Anchors in concrete: Design based on minimum specified 28-day compressive strength, f'_c , as follows, unless otherwise specified for the Work area:
 - 1) Concrete placed for this Work: $f'_c = 3,000$ pounds per square inch.
 - 2) Existing concrete in place prior to this Work: $f'_c = 3,000$ pounds per square inch.
8. Prepare Drawings showing construction details of anchor designs.
9. Submit design calculations and Drawings prior to placement of anchors, and of the structural elements to which they will connect.

END OF SECTION

SECTION 05120

STRUCTURAL STEEL FRAMING

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Structural steel shapes and plate.
 - 2. Fasteners and structural hardware:
 - a. All thread rods.
 - b. High-strength bolts.
 - 3. Welding.
 - 4. Bolting.

1.02 REFERENCES

- A. American Institute of Steel Construction (AISC):
 - 1. 303 - Code of Standard Practice for Steel Buildings and Bridges.
 - 2. 360 - Specification for Structural Steel Buildings.
- B. American Iron and Steel Institute (AISI):
 - 1. Steel and stainless steel alloys (types) as indicated.
- C. American Welding Society (AWS):
 - 1. A5.1 - Specification for Carbon Steel Electrodes for Shielded Metal Arc Welding.
 - 2. A5.17 - Specification for Carbon Steel Electrodes and Fluxes for Submerged Arc Welding.
 - 3. A5.20 - Specification for Carbon Steel Electrodes for Flux Cored Arc Welding.
 - 4. D1.1 - Structural Welding Code - Steel.
 - 5. D1.6 - Structural Welding Code - Stainless Steel.
- D. ASTM International (ASTM):
 - 1. A6 - Standard Specification for General Requirements for Rolled Structural Steel Bars, Plates, Shapes, and Sheet Piling.
 - 2. A36 - Standard Specification for Carbon Structural Steel.
 - 3. A123 - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - 4. A153 - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
 - 5. A194 - Standard Specification for Carbon and Alloy Steel Nuts for Bolts for High Pressure or High Temperature Service, or Both.
 - 6. A240 - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
 - 7. A276 - Standard Specification for Stainless Steel Bars and Shapes.
 - 8. A380 - Standard Practice for Cleaning, Descaling, and Passivation of Stainless Steel Parts, Equipment, and Systems.

9. A500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
 10. A501 - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.
 11. A563 - Standard Specification for Carbon and Alloy Steel Nuts.
 12. A992 - Standard Specification for Structural Steel Shapes.
 13. F436 - Standard Specification for Hardened Steel Washers.
 14. F593 - Standard Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs.
 15. F594 - Standard Specification for Stainless Steel Nuts.
 16. F959 - Standard Specification for Compressible-Washer-Type Direct Tension Indicators for Use with Structural Fasteners.
 17. F2329 - Standard Specification for Zinc Coating, Hot-Dip, Requirements for Application to Carbon and Alloy Steel Bolts, Screws, Washers, Nuts, and Special Threaded Fasteners.
 18. F3125 - Standard Specification for High Strength Structural Bolts, Steel and Alloy Steel, Heat Treated, 120 ksi and 150 ksi Minimum Tensile Strength.
- E. Research Council on Structural Connections (RCSC):
1. Specification for Structural Joints Using High-Strength Bolts (RCSC Specification).

1.03 TERMINOLOGY

- A. The words and terms listed below are not defined terms that require initial capital letters, but, when used in this Section, have the indicated meaning.
1. Snugtight: At bolted joints, the tightness attained with a few impacts of an impact wrench, or by the full effort of an ironworker using a spud wrench to bring the connected plies into firm contact.
 2. Stainless steel related terms:
 - a. Descaling: Removal of heavy, tightly adherent oxide films resulting from hot-forming, heat-treatment, welding, and other high-temperature operations.
 - b. Passivation: Chemical treatment of stainless steel with a mild oxidant for the purpose of enhancing the spontaneous formation of the steel's protective passive film.
 - c. Pickling: Chemical descaling of stainless steel using aqueous solutions of nitric and hydrofluoric acid, or various proprietary formulations as specified.

1.04 SUBMITTALS

- A. Furnish Submittals as specified in Section 01300 - Contractor Submittals and Section 01600 – Products, Materials, Equipment and Substitutions.
- B. Product data:
1. Welding electrodes for field welds: Electrode manufacturer's data.
 2. Stainless steel: Fabricator name and qualifications, member dimensions and structural section properties, and specifications and procedures used for pickling and passivating members.

- C. Shop Drawings:
 - 1. Fabrication and erection drawings.
- D. Quality Control Submittals:
 - 1. Welding procedure specifications (WPS) in accordance with AWS D1.1 and D1.6.
 - a. Submit WPS for each type of welded joint used, whether prequalified or qualified by testing.
 - 1) State electrode manufacturer and specific electrodes used.
 - 2) Indicate required AWS qualification for joint.
 - b. Submit WPS with Shop Drawings that indicate those welds.
 - c. Submit Procedure Qualification Record (PQR) in accordance with AWS D1.1 and D1.6 for welding procedures qualified by testing.
 - 2. Welder qualifications: For each welding process and position:
 - a. Welder's qualification certificates.
 - b. Contractor's statement that certificate will be "in effect" at the time(s) welding will be performed based on the "Period of Effectiveness" provisions of AWS D1.1 and D1.6.
- E. Test reports:
 - 1. Certified copies of mill tests and analyses made in accordance with applicable ASTM standards, or reports from a recognized commercial laboratory, including chemical and tensile properties of each shipment of structural steel or part thereof having common properties.

1.05 QUALITY ASSURANCE

- A. Welding:
 - 1. Perform welding of structural metals in accordance with AWS D1.1 and D1.6 using welders who have current AWS qualification certificate for the process, position, and joint configuration to be welded.
 - 2. Make welding procedure specifications available at the locations where welding is performed.
 - 3. Notify the Engineer at least 24 hours before starting shop or field welding.
 - 4. Engineer may check materials, equipment, and qualifications of welders.
 - 5. Remove welders performing unsatisfactory Work, or require requalification.
 - 6. Engineer may use gamma ray, magnetic particle, dye penetrant, trepanning, or other aids to visual inspection to examine any part of welds or all welds.
 - 7. Contractor shall bear costs of retests on defective welds.
 - 8. Contractor shall also bear costs in connection with qualifying welders.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. As specified in Section 01600 - Product Requirements.
- B. Packing and shipping: Deliver structural steel free from mill scale, rust, and pitting.
- C. Storage and protection: Until erection and painting, protect from weather items not galvanized or protected by a shop coat of paint.

PART 2 PRODUCTS

2.01 MATERIALS

A. Unless otherwise specified, materials shall be in accordance with the following:

Item	ASTM Standard	Class, Grade, Type, or Alloy Number
Carbon Steel		
Plate, bars, rolled shapes (except W and WT shapes), and miscellaneous items	A36	--
Rolled W and WT shapes	A992	Grade 50
Hollow structural sections/HSS: Round, square, or rectangular (including "pipe" where indicated for structural members and supports)	A500	Grade C
Stainless Steel		
Plate, sheet, and strip	A240	Type 304 ⁽¹⁾ or 316 ⁽²⁾
Bars and shapes	A276	Type 304 ⁽¹⁾ or 316 ⁽²⁾
(1) Use Type 304L (low-carbon stainless steel) if material will be welded. (2) Use Type 316L (low carbon stainless steel) if material will be welded.		

2.02 FASTENERS AND STRUCTURAL HARDWARE

A. General:

1. Materials: Of domestic manufacture.
2. Where fasteners and hardware are specified to be galvanized, hot-dip galvanize in accordance with ASTM A153 or ASTM F2329, unless otherwise specified.

B. All thread rods:

1. Carbon steel:
 - a. In accordance with ASTM A36.
 - b. Nuts: ASTM A194.
 - c. Washers: ASTM F436.
2. Galvanized carbon steel:
 - a. In accordance with ASTM A36 and hot dip galvanized in accordance with ASTM A153.
 - b. Nuts: ASTM A194; hot-dip galvanized in accordance with ASTM A153.
 - c. Washers: ASTM F436; hot-dip galvanized in accordance with ASTM A153.
3. Stainless steel:
 - a. Units descaled, pickled, and passivated as specified in the Fabrication article in this Section.
 - b. Threaded rods and nuts shall be the products of a single manufacturer/fabricator to ensure proper fit without galling. Ship all thread rods with properly fitting nuts attached.

- c. Type 316:
 - 1) Rod: ASTM F593, Group 2, Condition CW, coarse threads.
 - 2) Nuts: ASTM F594. Match alloy of rod (group and UNS designation).
 - 3) Washers: Type 316 stainless steel.
- C. High-strength bolts:
 - 1. Provide high-strength bolt assembly with nuts, hardened flat washers, and compressible-washer-type direct tension indicators. Carbon steel: Uncoated:
 - a. Bolts: Plain heavy hex structural bolts in accordance with ASTM F3125, Grade A325, Type 1.
 - b. Nuts: Heavy hex nuts in accordance with ASTM A563, Grade C.
 - c. Washers:
 - 1) Adjacent to normal, oversized, and short-slotted holes: Circular, square or rectangular beveled, clipped, or extra thick washers in accordance with ASTM F436, Type 1. Flat circular washers.
 - 2) Adjacent to long slotted holes: Fabricated from 5/16-inch thick plate in accordance with ASTM A36.
 - 3) Twist-off type tension-control bolt assemblies: ASTM F3125, Grade F1852.
- D. Stainless steel bolts (for use in stainless steel structures):
 - 1. General:
 - a. Bolts and nuts shall be the products of a single manufacturer/fabricator to ensure proper fit without galling. Ship bolts with properly fitting nuts attached.
 - b. Units descaled, pickled and passivated as specified in the Fabrication article in this Section.
 - 2. Type 316:
 - a. Bolts: ASTM F593, Group 2, Condition CW, coarse threads.
 - b. Nuts: ASTM F594. Match alloy (group and UNS designation) and threads of bolts.
 - c. Washers: Type 316 stainless steel.

2.03 THREAD COATING

- A. Manufacturers: One of the following or equal:
 - 1. Bostik, Never-Seez.
 - 2. Oil Research, Inc., WLR No. 111.

2.04 SUPPLEMENTARY PARTS

- A. Furnish as required for complete structural steel erection, whether or not such parts and Work are specified.

2.05 FABRICATION

- A. Shop assembly:
 - 1. Fabricate structural steel in accordance with AISC 360 and AISC 303 unless otherwise specified or modified by applicable regulatory requirements.

2. Where anchors, connections, or other details of structural steel are not specifically specified, their material, size and form shall be equivalent in quality and workmanship to items specified.
 3. Round off sharp and hazardous projections and grind smooth.
 4. Take measurements necessary to properly fit work in the field. Take responsibility for and be governed by the measurements and proper working out of all the details.
 5. Take responsibility for correct fitting of metalwork.
 6. Welded connections:
 - a. In accordance with AWS requirements for the metals to be welded.
 - b. Weld only in accordance with approved welding procedure specifications.
 - c. Keep welding procedure specifications readily available for welders and inspectors during fabrication processes.
- B. Galvanized carbon steel:
1. Where galvanizing is required, hot-dip structural steel after fabrication in accordance with ASTM A123.
 2. Do not electro-galvanize or mechanically-galvanize unless specified or accepted by the Engineer.
 3. Re-straighten galvanized items that bend or twist during galvanizing.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verification of conditions: Examine Work in place to verify that it is satisfactory to receive the Work of this Section. If unsatisfactory conditions exist, do not begin this Work until such conditions have been corrected.

3.02 ERECTION

- A. General:
1. Fabricate structural and foundry items to true dimensions without warp or twist.
 2. Form welded closures neatly and grind off smooth where weld material interferes with fit or is unsightly.
 3. Install structural items accurately and securely, true to level, plumb, in correct alignment and grade, with all parts bearing or fitting structure or equipment for which intended.
 4. Do not shift out of alignment, re-drill, re-shape, or force fit fabricated items.
 5. Place anchor bolts or other anchoring devices accurately and make surfaces that bear against structural items smooth and level.
 6. Rigidly support and brace components to preserve straight, level, even, and smooth lines.
 - a. Install non-shrink grout.
 - b. Keep items braced until grout has hardened for 48 hours minimum.
 7. Erect structural steel in accordance with AISC 303 unless otherwise specified or modified by applicable regulatory requirements.
 8. Where anchors, connections, and other details of structural steel erection are not specifically specified, form, locate, and attach with equivalent in quality and workmanship to items specified.

9. Round off sharp or hazardous projections and grind smooth.
 10. Paint or coat steel items as specified in Section 09974 – Coating for Welded Steel Water Storage Tanks.
- B. Stainless steel: Take necessary precautions to avoid iron contamination of stainless steel during delivery, storage, and handling.
1. Segregate stainless steel from iron.
 2. Tools and handling devices.
 - a. Do not use iron tools clamps, chokes, working surfaces, or brushes when fabricating, handling, and erecting stainless steel.
 - b. Do not use tools that have been contaminated by contact with iron.
 - c. Use stainless steel, polymer coated, or wood tools and handling equipment. Do not use tools that have been contaminated by contact with iron or steel.
- C. Welding: General:
1. Make welds full penetration type.
 2. Remove backing bars and weld tabs after completion of weld. Repair defective welds observed after removal of backing bars and weld tabs.
- D. Welding: Carbon steel:
1. In accordance with AWS D1.1:
 - a. Weld ASTM A36 and ASTM A992 structural steel and ASTM A500 and ASTM A501 structural tubing with electrodes in accordance with AWS A5.1, using E70XX electrodes; AWS A5.17, using F7X-EXXX electrodes; or AWS A5.20, using E7XT-X electrodes.
 - b. Field repair cut or otherwise damaged galvanized surfaces to equivalent original condition using a galvanized surface repair.
- E. Welding: Stainless steel:
1. In accordance with AWS D1.6.
 2. Field welding of stainless steel will not be permitted.
 - a.
- F. Interface with other products:
1. Where steel members and fasteners come in contact with dissimilar metals (aluminum, stainless steel, etc.), separate or isolate the dissimilar metals with isolating sleeves and washers.
- G. Fasteners: General:
1. Install bolts to project 2 threads minimum, but 1/2 inch maximum beyond nut.
- H. Fasteners: High-strength carbon steel bolts:
1. Connections with high-strength bolts shall be in accordance with the RCSC Specification for Structural Joints Using High-Strength Bolts.
 2. Joints: Slip-critical.
 - a. Confirm that faying surfaces at connections are free of dirt and other foreign material, have been blast cleaned, and are free of coatings and inadvertent overspray in accordance with the RCSC Specification.
 - b. Furnish hardened flat washers in accordance with ASTM F436:
 - 1) On outer plies with slotted holes.

- 2) When one or more plies of the connected material has a yield strength less than 40 ksi.
 - 3) Under element, nut, or bolt head, turned in tightening.
 - c. Install tension indicator washers, placed in accordance with ASTM F959, Figure X1, to confirm adequate tightening of bolts.
 - d. Tighten bolts to full pretension.
- 3. Joints: Pre-tensioned.
 - a. Joint preparation, assembly, and tightening shall be as specified for slip-critical connections, except that the requirements for un-coated faying surfaces shall not apply.
 - b.
- I. Fasteners: Stainless steel bolts:
 - 1. Connections shall be snugtight joints.
 - 2. Prior to installing nuts, coat threads of stainless steel fasteners with thread coating to prevent galling of threads.
 - 3. Rotate nuts using a slow, smooth action without interruptions. Avoid over-tightening.

3.03 FIELD QUALITY CONTROL

- A. As specified in Section 01400 – Quality Assurance/Quality Control.

3.04 FIELD QUALITY ASSURANCE

- A. As specified in Section 01400 – Quality Assurance/Quality Control.
- B. Special inspections, special tests, and structural observation:
 - 1. As specified in Section 13209D – Welded Steel Tank Rehabilitation.

END OF SECTION

SECTION 09974

COATING FOR WELDED STEEL WATER STORAGE TANKS

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Surface preparation and application of protective coatings to welded steel water storage tanks, including accessories, exposed piping, valves, and miscellaneous appurtenances:
 - a. Provide full coating of roof structure elements, including top flange of roof structure, prior to erection of tank.
 - b. Provide caulking of bottom chime of tank at exterior prior to application of exterior coating.
- B. Furnish material, equipment, labor, and services required for surface preparation and application of protective coatings to the project water storage tank, including accessories, exposed piping, valves, and miscellaneous appurtenances.
- C. Preparation and application of coatings specified in this Section shall be in strict accordance with the coating manufacturer's instructions as supplemented by these specifications.
 - 1. Contractor shall have a minimum of 5 years practical experience and successful history in application of protective coatings to steel storage tanks used for storage of potable water.
 - 2. Substantiate this requirement by furnishing a list of references.
- D. Materials and applications for coating interior surfaces of water storage tank shall be certified in accordance with NSF International (NSF) Standard 61/600.

1.02 REFERENCES

- A. ASTM International (ASTM):
 - 1. D4541 - Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers.
- B. NACE International:
 - 1. SP0188 - Discontinuity (Holiday) Testing of New Protective Coatings on Conductive Substrates.
- C. National Fire Protection Association (NFPA):
 - 1. 70 - National Electric Code (NEC).
- D. NSF International (NSF):
 - 1. 61 - Drinking Water System Components - Health Effects.
- E. Occupational Safety and Health Administration (OSHA).

- F. Society for Protective Coatings (SSPC):
 - 1. PA 1 - Shop, Field, and Maintenance Painting of Steel.
 - 2. PA Guide 10 - Safety and Health Requirements.
 - 3. PS 17.00 - Guide for Selecting Urethane Painting Systems.
 - 4. SP 10 - Near-White Blast Cleaning.
 - 5. SP 5 - White Blast Cleaning
 - 6. VIS 1 - Guide and Reference Photographs for Steel Surfaces Prepared by Dry Abrasive Blast Cleaning.
- G. Underwriters Laboratory, Inc. (UL).

1.03 SUBMITTALS

- A. Submit as specified in Section 01300 - Contractor Submittals.
- B. Shop Drawings:
 - 1. Schedule of proposed coating materials.
 - 2. Schedule of surfaces to be coated with each coating material.
- C. Product data: Include description of physical properties of coatings including solids content and ingredient analysis, VOC content, temperature resistance, typical exposures and limitations, and manufacturer's standard color chips:
 - 1. Regulatory requirements: Submit data concerning the following:
 - a. Volatile organic compound limitations.
 - b. Coatings containing lead compounds and PCBs.
 - c. Abrasives and abrasive blast cleaning techniques, and disposal.
 - d. NSF certification of coatings for use in potable water supply systems.
- D. Samples: Include 8-inch square drawdowns or brush-outs of topcoat finish when requested. Identify each sample as to finish, formula, color name and number and sheen name and gloss units.
- E. Manufacturer's instructions:
 - 1. Special requirements for transportation and storage.
 - 2. Mixing instructions.
 - 3. Shelf life.
 - 4. Pot life of material.
 - 5. Precautions for applications free of defects.
 - 6. Surface preparation.
 - 7. Method of application.
 - 8. Recommended number of coats.
 - 9. Recommended dry film thickness (DFT) of each coat.
 - 10. Recommended total dry film thickness (DFT).
 - 11. Drying time of each coat, including prime coat.
 - 12. Required prime coat.
 - 13. Compatible and non-compatible prime coats.
 - 14. Recommended thinners, when recommended.
 - 15. Limits of ambient conditions during and after application.
 - 16. Time allowed between coats (minimum and maximum).
 - 17. Required protection from sun, wind, and other conditions.

18. Touch-up requirements and limitations.
 19. Minimum adhesion of each system submitted in accordance with ASTM D4541.
- F. Contractor/Applicators Representative's (NACE Level 3 Inspector) Field Reports.
- G. Operations and maintenance data: Submit as specified in Section 01770 - Closeout Procedures.
1. Reports on Project Site to viewing, testing and approval of surface preparation of structures to be coated.
 2. Reports on observation, testing and approval of coating application of structures to be coated.
 3. Coating Manufacturer's Representative reports on visits to coating plants to observe and approve surface preparation and coating application on items that are "shop coated."
- H. Quality assurance Submittals:
1. Quality assurance plan.
 2. Qualifications of coating applicator including List of Similar Projects.
- I. Certifications:
1. Submit notarized certificate that:
 - a. All paints and coatings to be used on this Project comply with current federal, state, and local VOC regulations.
 - b. All paints and coatings in contact with potable water have NSF or UL certification.
 - c. As applicable - all paints and coatings to be used on this Project comply with the current VOC regulations of the State of California Air Management District in which the coatings will be used.
 - d. Coating is properly cured and ready for service.

1.04 QUALITY ASSURANCE

- A. Quality assurance procedures and practices shall be utilized to monitor all phases of surface preparation, application of coatings, and inspection throughout duration of the Project.
1. Procedures or practices not specifically defined in this Section may be utilized, provided they meet recognized and acceptable professional standards and are accepted by the Engineer:
 - a. Services of the coating manufacturer's representative:
 - 1) Arrange for the coating manufacturer's representative to attend preconstruction conferences and make periodic visits to the construction site to provide consultation and training as needed.
- B. All materials furnished shall be subject to inspection by the Engineer:
1. Data for coating materials, solvents, and thinners to be used on the Project shall be submitted.
 2. Hold strictly to true intent of specifications in regard to quality of materials, workmanship, and diligent execution of Contract:
 - a. Compatibility of coatings: Use products by the same manufacturer for all coats on same surface, unless specified otherwise.

- C. Water tank interior surface preparation shall be based upon compliance with SSPC-VIS 1, and as described below.
 - 1. Anchor profile for prepared surfaces shall be measured by using a nondestructive instrument such as a Keane-Tater Surface Profile Comparator or Testex Press-O-Film System.
 - 2. Provide said items for measuring anchor profile.
- D. Apply coatings in strict accordance with the manufacturer's material data sheets and as specified, with particular attention to curing and drying times and temperatures.
 - 1. Apply no coating when surrounding air temperature of surface to be coated is below minimum temperature allowed by the manufacturer's recommendations for coating application, or when it is expected that air temperature will drop below minimum 8 hours after coating application.
 - 2. Apply no coating when surrounding air temperature is forecasted to be less than 5 degrees Fahrenheit above dew point within 8 hours after coating application.
 - 3. Apply no coating to steel which is 5 degrees Fahrenheit below air temperature, or which is at a temperature over 125 degrees Fahrenheit, nor shall coating be applied to steel which is at a temperature that will cause blistering or porosity or otherwise will be detrimental to the life of the coating.
 - 4. No coating shall be applied to wet or damp surfaces or in rain, snow, fog, or mist.
 - 5. Coating shall not be applied on frosted or ice-coated surfaces.
 - 6. Dew point shall be measured by use of an instrument such as a sling psychrometer in conjunction with U.S. Department of Commerce Weather Bureau Psychrometric Tables or equivalent:
 - a. Exterior tank surfaces:
 - 1) If above conditions are prevalent, coating application shall be delayed or postponed until conditions are favorable.
 - 2) Complete day's coating application time to permit coating sufficient drying time prior to damage by atmospheric conditions.
 - b. Interior tank surfaces: If above conditions are prevalent, provide fans, heaters, and dehumidification equipment as necessary to provide suitable conditions for application and curing of coating products in strict accordance with the coating manufacturer's instructions.
- E. Thickness of coatings shall be checked with a nondestructive, magnetic-type thickness gauge.
 - 1. Use an instrument such as a Tooke Gauge if a destructive tester is deemed necessary.
 - 2. Test coating integrity of interior wetted surfaces with an approved inspection device.
 - 3. Holiday detectors shall not exceed voltage recommended by the manufacturer of coating system.
 - 4. For thickness between 10 and 20 mils, add a non-sudsing type wetting agent to water prior to wetting detector sponge.
 - 5. No pinholes or other irregularities will be permitted in final coating:
 - a. Holiday detection testing: Shall be accomplished over 100 percent of interior coated surfaces, and in strict accordance with NACE SP0188.

- F. Inspection of applied coating will be accomplished as a joint effort involving the Contractor and Engineer.
- G. Provide the following testing devices to be jointly used on this Project by the Contractor and Engineer. Devices shall remain the property of the Contractor during and after the Project:
 - 1. Surface profile Comparator or Testex Tape to measure surface profile prior to coating application.
 - 2. Psychrometer and psychrometric tables or charts for humidity/dew point determination.
 - 3. Dry film thickness gauge and calibration blocks for coating thickness testing.
 - 4. Wet film thickness gauge for coating thickness testing.
 - 5. 10 times magnifier for examination.
 - 6. Holiday detector and associated equipment for coating defect determination.
 - 7. Combustible gas analyzer (sniffer) for safety.
- H. Engineer will witness all testing as performed by the Contractor.
- I. Preparation of surfaces and application of coatings specified in this Section shall be in strict accordance with the coating manufacturer's instructions as supplemented by these specifications.
 - 1. Contractor shall have a minimum of 5 years' practical experience and successful history in application of protective coatings to steel water tanks used for storage of potable water.
 - 2. Upon request, substantiate this requirement by furnishing a list of references.
 - 3. All quality testing shall be overseen by a NACE Level 3 Forman/Inspector who manages and oversees the personnel conducting the overall testing.
- J. Unless otherwise specified, materials and applications for coating interior surfaces of water tank shall be certified in accordance with NSF 61.

1.05 WARRANTY INSPECTION

- A. Conducted during the eleventh month following completion of all coating work.
 - 1. Contractor shall be present at inspection.
 - 2. Defective work shall be repaired in strict accordance with the coating manufacturer's instructions, this Specification, and to the satisfaction of the Engineer.
- B. Notification:
 - 1. Owner shall establish date for inspection at least 30 days in advance.
- C. Owner shall drain water tank and the Contractor shall provide, at his own expense, suitable and necessary scaffolding and ladders, suitable lighting, and ventilation for inspection:
 - 1. Inspection-interior:
 - a. Entire interior coating system shall be visually inspected as specified in Quality Assurance.
 - b. Defective coating, as well as damaged and rusting spots in water tank, shall be satisfactorily repaired by and at the sole expense of the Contractor.

2. Inspection-exterior:
 - a. Entire exterior coating system shall be inspected as specified in Quality Assurance.
 - b. Defective, damaged, or rusting areas shall be satisfactorily repaired by and at the sole expense of the Contractor.
 3. Coating manufacturer's representative: Present during inspection of work to assist with assessment of condition of interior and exterior coating and make recommendations for methods of repair of coating systems as may be required.
- D. Prepare and submit an inspection report covering first anniversary inspection, setting forth number and type of failures observed, percentage of surface area where failures have occurred, and names of persons making inspection.
- E. Schedule:
1. Upon completion of inspection and receipt of an Inspection Report as noted in this Section, the Owner shall establish a date for the Contractor to proceed with remedial work.
 2. Any delay on part of the Contractor to meet schedule established by the Owner shall constitute breach of this Contract and the Owner may proceed to have defects remedied, with costs involved paid by the Contractor.
- F. Remedial work:
1. Any location where coating has peeled, bubbled, or cracked, and any location where rusting is evident shall be considered a failure of coating system.
 - a. Make repairs at all points where failures are observed by removing deteriorated coating, cleaning surface, and recoating with same coating system.
 2. If area of failure exceeds 25 percent of total coated surface, entire coating system may be required to be removed and recoated in accordance with the original specification.
- G. Costs:
1. Costs for the Contractor's testing and costs for repair shall be borne by the Contractor.
 2. In preparing his bid, the Contractor shall include an appropriate amount for testing and repair.
 3. No additional allowance will be paid by the Owner for said testing and repair.

1.06 SAFETY AND HEALTH REQUIREMENTS

- A. Conform with safety requirements set forth by regulatory agencies applicable to the construction industry and the coating manufacturer's printed instructions and appropriate technical bulletins and manuals.
1. Provide and require use of personal protective life-saving equipment for people working on or about the Project Site.
- B. Observe proper safety precautions to protect against potential toxicity and flammability of coatings.
1. Safe handling and application practices are required and should include, but not be limited to, provisions of:
 - a. SSPC-PA Guide 10.

- b. SSPC-PS 17.00.
 - c. Coating Manufacturer's Material Safety Data Sheets.
- C. Ladders, scaffolding, and rigging shall be designed for intended uses.
 - 1. Erect ladders and scaffolding where requested by the Engineer to facilitate inspection and be moved by the Contractor to locations requested by the Engineer.
- D. Where ventilation is used to control hazardous exposure, equipment shall be explosion proof.
 - 1. Ventilation shall reduce concentrations of air contaminants to ensure that a hazard does not exist.
 - 2. Continue air circulation and exhausting of solvent vapors until coatings have fully cured.
 - 3. Forced air ventilation during surface preparation and coating application operations is mandatory.
 - 4. Operate ventilation during entire period of application and continue after spraying has been halted until there is no coating vapor present.
 - 5. Air in enclosed coating space shall be safe at all times from fire and explosion hazards:
 - a. When required, utilize dehumidification equipment to provide proper temperature and humidity conditions inside the water tank, as recommended by the coating manufacturer, to ensure proper application and curing of coatings.
- E. During coating application, capacity of ventilating fans shall be at least 300 cubic feet per minute per gallon of coating applied per hour.
- F. Continuous forced ventilation at a rate of at least 1 complete air changes every 4 hours shall be provided for at least 48 hours after coating application is completed, or until coating is completely cured, in accordance with the coating manufacturer's recommendations.
- G. Air shall be exhausted from lowest portions of water tank with top openings kept open and clear.
 - 1. During blasting operations, nozzle-men shall wear air-supplied helmets and all other persons who are exposed to blasting dust shall wear filter-type respirators and safety goggles.
- H. When coatings are applied inside water tank, all people exposed to toxic vapors shall wear air-supplied masks.
- I. Provide 2 sets of filter-type respirators and safety goggles and an air-supplied mask to be used by Owner's personnel and the Engineer when required for inspection purposes.
 - 1. Devices shall be kept in good working conditions.

- J. Ground hoses to prevent accumulation of charges of static electricity.
 - 1. Nozzles shall be equipped with dead man triggers.
 - 2. Dead man triggers shall be in good working condition and shall not be tied down or otherwise modified by any means that prohibits functioning of automatic feature of nozzle.
- K. Provide spark-proof artificial lighting for work in confined spaces.
 - 1. Light bulbs shall be guarded to prevent breakage.
- L. Lighting fixtures and flexible cords used in any coating operation shall comply with requirements of NEC for atmosphere in which they will be used.
 - 1. Whenever required by the Engineer, provide additional illumination and necessary support to cover areas to be inspected.
 - 2. Level of illumination for inspection purposes shall be determined by the Engineer.
- M. Maximum allowable concentration of vapor shall be kept below maximum safe concentration for 8-hour exposure.
- N. When handling and mixing coatings, workmen shall wear protective clothing required by OSHA and/or recommended by the coating manufacturer.
- O. During mixing and application of coatings, all flames, welding, and smoking shall be prohibited in vicinity.
 - 1. Appropriate type fire extinguishers shall be kept nearby.
- P. Whenever occupational noise exposure exceeds the maximum allowable sound level, provide and require use of approved ear protective devices for all persons exposed to the noise, including Owner personnel.
- Q. Maintain a solvent drum on-site to store used solvents.
 - 1. Do not dump solvents and/or thinners on ground.
 - 2. Remove solvent drums from job site by and at the sole expense of the Contractor.
- R. Enclosure of the exterior of the storage tank shall be required during coating operation to contain abrasive blast material and paint overspray:
 - 1. Enclosure shall be in accordance with SSPC requirements for safety and ventilation in accordance with SSPC-PA Guide 10.

PART 2 PRODUCTS

2.01 GENERAL

- A. Materials shall be brought to the job site in original sealed containers with the manufacturer's name, brand, color, and identification number clearly legible:
 - 1. Containers shall not be opened or used until the Engineer has physically inspected contents and obtained necessary data from information printed on containers or labels.
 - 2. Materials exceeding storage life recommended by the manufacturer shall be rejected.
- B. Manufacturer shall identify flammability, toxicity, and allergenic properties.
 - 1. Any other characteristics requiring field precautions and specific safety practices shall be stipulated.
- C. Coatings shall be stored in enclosed structures for protection from weather and excessive heat or cold.
 - 1. Flammable coatings must be stored to conform with city, county, state, and federal safety codes for flammable coating and paint materials.
- D. Coating products shall be from the same manufacturer.
- E. Submit coating samples prior to ordering any coating products.
 - 1. Interior and exterior coating products shall bear same batch numbers.
 - 2. Do not mix batch numbers.

2.02 INTERIOR COATING MATERIALS

- A. Epoxy coating materials used for interior water tank shall be in accordance with NSF 61/600 and shall be certified by NSF for use in potable water.
 - 1. Coatings shall have a minimum solids-by-volume content of not less than 80 percent and conform to requirements of local and state air pollution regulatory agencies.
- B. Coating system shall be one of the following or accepted equal:

Manufacturer	Interior Coating System	Number of Coats	Surface Preparation	Minimum System Total Thickness Average	Intermediate Coating Color	Final Coating Color
Carboline	Hydroplate 1100	2	SSPC SP5	Minimum 40 MDFT	Each coat shall have a contrasting color	White
PPG	Novaguard 840	2	SSPC SP5	Minimum 40 MDFT	Each coat shall have a contrasting color	White

Manufacturer	Interior Coating System	Number of Coats	Surface Preparation	Minimum System Total Thickness Average	Intermediate Coating Color	Final Coating Color
Sherwin Williams	Sher-Plate PW	2	SSPC SP5	Minimum 40 MDFT	Each coat shall have a contrasting color	White
Tnemec	Series 22	2	SSPC SP5	Minimum 40 MDFT	Each coat shall have a contrasting color	White
NOTE: Do not exceed the manufactures' recommendations and NSF 61/600 certification requirements. Do not use Hydroplate 1100 with cathodic protection.						

2.03 EXTERIOR COATING MATERIALS

- A. Coating system for exterior of water tanks shall consist of a 2-coat system utilizing a high solids epoxy coating with a aliphatic acrylic polyurethane finish coating:
1. Finish coating used shall provide superior color and gloss retention, resistance to splash from acid, alkaline chemicals, chemical fumes, and severe weathering.
 2. Coatings used shall conform to requirements of local and state air pollution regulatory agencies.
 3. Finish coat color shall be the Owner's choice and must be accepted by the Engineer prior to ordering of coating.
- B. Coating system shall be one of the following listed systems: 2 Coats Epoxy/1 to 2 Coats Polyurethane:

Manufacturer	Exterior Coating System Epoxy	Minimum Thickness 2 Coats Total	Exterior Coating System Polyurethane	Minimum Thickness 1 to 2 (Finish Coat)
Carboline	Carboguard 840	8 to 10 MDFT	Carothane 134 VOC	2 to 3 MDFT
International	Deran 224V	8 to 10 MDFT	Devthane 379	2 to 3 MDFT
PPG	Amercoat 385	8 to 10 MDFT	Amercoat 450H	2 to 3 MDFT
Sherwin-Williams	Macropoxy 646	8 to 10 MDFT	Hi-Solids Polyurethane	2 to 3 MDFT
Tnemec	Series N69	8 to 10 MDFT	Series 1095	2 to 3 MDFT
NOTES: For steel clean surfaces to a "Near White Blast" SSPC SP10. Total system is 10 to 13 MDFT.				

PART 3 EXECUTION

3.01 GENERAL

- A. Surface preparation and coating applications shall be in accordance with applicable SSPC standards and the coating manufacturer's printed instructions:
 - 1. Material applied prior to acceptance of surface by the Engineer shall be removed and reapplied to the satisfaction of the Engineer at the expense of the Contractor:
 - a. Coating manufacturer's representative shall be present at the Project Site at the beginning of surface preparation operations and at the beginning of coating application operations, to approve Contractor procedures and provide direction as may be required.
- B. Work shall be performed by skilled craftsmen qualified to perform required work in a manner comparable with best standards of practice.
- C. Dust, dirt, oil, grease, or any foreign matter which will affect adhesion or durability of coatings must be removed by washing with clean cloths dipped in an approved cleaning solvent and wiped dry with clean cloths.
- D. Coating application equipment shall be designed for application of materials specified and shall be maintained in first-class working conditions.
- E. Compressors shall have suitable traps and filters to remove water and oils from air. Equipment shall be subject to acceptance by the Engineer.
- F. Application of first coat shall follow immediately after surface preparation and cleaning within an 8-hour working day:
 - 1. Any cleaned areas not receiving first coat within an 8-hour period shall be recleaned prior to application of the coat.

3.02 SURFACE PREPARATION

- A. General:
 - 1. Surfaces shall be prepared in accordance with the coating manufacturer's current Product Data Sheets and as described below.
 - 2. Weld splatter:
 - a. Removed using a chipping hammer, spud bar, or scraper.
 - b. Tightly adhering weld splatter may require removal by grinding.
 - 3. Sharp edges:
 - a. Remove sharp edges, such as those normally occurring on rolled structural members or plates, as well as those resulting from flame cutting, welding, grinding, and especially shearing, by any suitable method such as grinding, mechanical sanding, and filing.
 - b. Ensure that during removing operations new sharp edges are not created.
 - 4. Pits: Deep corrosion pits, gouges, clamp marks, or other surface discontinuities may require grinding prior to coating application and will require filling with seam sealer or equal.

5. Laminations, slivers:
 - a. Rolling discontinuities (laps) with sharp protruding edges, deep penetrating crevices, and such defects shall be eliminated prior to coating.
 - b. Eliminate minor slivers by scraping and grinding. Sharp fins, projections, or edges shall be removed.
6. Surfaces shall be prepared in accordance with the coating manufacturer's instructions.
 - a. Steel surfaces in immersion to be coated must be abrasive blast cleaned to a minimum "White Metal" in accordance with SSPC-SP 5.
 - b. A "White Metal" blast is removal of rust, mill scale, paint, and other foreign matter to a white metal.
 - c. Limit staining to less than 5 percent of surface area.
7. A profile or anchor pattern is required to ensure best possible adhesion of coating system to steel.
 - a. Use proper mesh size angular abrasive to obtain profile required for each individual type of coating system.
 - b. Profile shall be 2.0 mils.
 - c. Only clean, fresh grit, or abrasive shall be used.
8. In general, select the smallest size abrasive that will produce desired cleaning results.
9. After abrasive blasting, remove dust, foreign particles, and spent abrasives by blowing down with clean, dry, oil free air, brushing, and vacuum cleaning.
10. Workers and/or inspectors who will be in contact with abrasive blasted surfaces shall wear clean gloves, clothing, and shoe coverings to prevent contamination of abrasive blasted surfaces.
11. Apply primer or first coat of coating system as soon as possible after abrasive blasting operation is finished and before surface starts to rust.
 - a. If abrasive blasted surface changes color or rust bloom begins to form, re-blast surface to "White Metal."
12. Clean and coat ladders, pipes, pipe connections, flanges, and any other structures in or connected to water tank.
 - a. Edges shall be brush striped prior to spray application of coating.
13. Blast a sample area with abrasive to be used to check surface preparation and proposed equipment to ensure that surface can be cleaned according to specification and that abrasive will provide a profile suitable for application of coating to be used.
14. No coating work shall begin before prepared surfaces and manner of preparation is accepted by the Engineer.

3.03 COATING APPLICATION

- A. In accordance with requirements of SSPC-PA 1, latest revision, coating manufacturer's printed literature, and as specified.
- B. Thinning of coating materials shall only be permitted as recommended by the manufacturer and accepted by the Engineer.
- C. Apply each application of coating evenly, free of brush marks, sags, and runs, and with no evidence of poor workmanship:
 1. Coating shall be sharply cut to lines.
 2. Finished surfaces shall be free from defects and blemishes.

- D. Protective coverings and drop cloths shall be used to protect floors, fixtures, equipment, prepared surfaces, and previously-applied coatings:
 - 1. Personnel entering water tank or walking on exterior roof of water tank shall take precautions to prevent damage or contamination of coated surfaces.
 - 2. Exercise care to prevent coating from being spattered onto surfaces which are not to be coated.
 - 3. Recoat surfaces from which material cannot be removed satisfactorily as required to produce a finish acceptable to the Engineer.
- E. Welds, seams, edges, and irregular surfaces shall receive a brush (stripe) coat prior to spray application of coating.
- F. Application of first coat shall follow immediately after surface preparation and cleaning within an 8-hour period.
- G. Coating components shall be mixed in exact proportions as specified by the manufacturer:
 - 1. Ensure all materials are removed from containers during mixing and metering operations.
- H. Thoroughly mix coatings utilizing an approved slow-speed power mixer until components are thoroughly combined and are of a smooth consistency:
 - 1. Do not apply coatings beyond pot-life limits specified by the manufacturer.
- I. Add thinners to coating materials only as required in accordance with the manufacturer's printed literature and in the presence of the Engineer.
- J. Strictly observe drying time between coats as stated in the manufacturer's printed instructions.
- K. When 2 or more coats are specified, each coat shall contain sufficient approved color additive to act as an indicator of coverage, or coats must be of contrasting color.
- L. Upon completion of coating operations, perform coating thickness tests and holiday detection testing using a non-destructive, magnetic type thickness gauge, and an approved holiday detection device:
 - 1. Pinholes or other irregularities are not permitted in the coating.
 - 2. Holiday detection testing shall be accomplished over 100 percent of interior coated surfaces.
- M. Perform mixing, thinning, application, coating thickness testing, and holiday detection testing of coatings in presence of the Engineer.
- N. Required cure duration shall be based on applied thickness, temperature, and relative humidity during curing period before placing epoxy-coating systems into service. Curing time shall be in accordance with coating manufactures' instructions.

- O. Contractor to furnish letter to the Engineer stating coating is properly cured and ready for service. Engineer may perform tests to verify proper cure.
- P. Engineer will perform aesthetic tests (T&O) as specified in Section 01757 - Disinfection.

3.04 DISINFECTION

- A. Disinfect as specified in Section 01757 - Disinfection.

END OF SECTION

SECTION 13209D

WELDED STEEL TANK REHABILITATION

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Repair and rehabilitation of welded steel water storage tanks, including accessories, piping, and miscellaneous appurtenances.
- B. Work by the Contractor shall meet the requirements of Federal OSHA 29 CFR 1926.

1.02 DESCRIPTION OF WORK

- A. Tank repairs and modifications to ground-supported 160,447 gallon, 36.5 feet diameter by 20.5 feet high welded steel tank generally include the following:
 - 1. Installation of sample station per details provided in Attachment A at location directed by the Owner.
 - 2. Removal of existing interior tank ladder and installation of support for existing level sensor.
 - 3. Recoating tank interior. Coating systems shall be as specified in Section 09974 - Coating for Welded Steel Water Storage Tanks.
 - 4. Touch up of the existing exterior coating is required where existing steel plates or welds are repaired and where attachments of new appurtenances damage existing exterior coating. Coating systems shall be as specified in Section 09974 - Coating for Welded Steel Water Storage Tanks.
 - 5. Installation of cathodic protection system: As specified in Section 15305 – Galvanic Anode Cathodic Protection for Welded Steel Tank if Bid Alternate 1A is approved by District.

1.03 REFERENCES

- A. American Institute of Steel Construction (AISC):
 - 1. 360 - Specification for Structural Steel Buildings.
- B. American Society for Nondestructive Testing (ASNT):
 - 1. SNT-TC-1A - Personnel Qualification and Certification in Nondestructive Testing.
- C. American Society of Mechanical Engineers (ASME):
 - 1. BPVC Section VIII - Rules for Construction of Pressure Vessels Division 1.
 - 2. BPVC Section IX - Welding, Brazing, and Fusing Qualifications.
- D. American Water Works Association (AWWA):
 - 1. D100 - Standard for Welded Carbon Steel Tanks for Water Storage.

- E. American Welding Society (AWS):
 - 1. B2.1 - Base Metal Grouping for Welding Procedure and Performance Qualification.
 - 2. D1.1 - Structural Welding Code - Steel.
 - 3. QC1 - Standard for AWS Certification of Welding Inspectors.
 - 4. QC7 - Standard for AWS Certified Welders.
- F. ASTM International (ASTM):
 - 1. F3125 - Standard Specification for High Strength Structural Bolts and Assemblies, Steel and Alloy Steel, Heat Treated, Inch Dimensions 120 ksi and 150 ksi Minimum Tensile Strength.
- G. NACE International (NACE):
 - 1. SP0178 - Design, Fabrication, and Surface Finish Practices for Tanks and Vessels to Be Lined for Immersion Service.
- H. Occupation Safety and Health Administration (OSHA):
 - 1. 29 CFR 1926 - Safety and Health Regulations for Construction.
- I. NSF International (NSF):
 - 1. 61 – Drinking Water System Components – Health Effects.
 - 2. 600 – Health Effects Evaluation and Criteria for Chemicals in Drinking Water.

1.04 TERMINOLOGY

- A. The words and terms listed below are not defined terms that require initial capital letters, but, when used in this Section, have the indicated meaning:
 - 1. Faying surfaces: The plane of contact between plies of a bolted assembly of multiple structural elements.
 - 2. Tank chime: The intersection of the shell and bottom plate include a 3-inch zone interior to the tank and that projecting beyond the shell.
 - 3. Bottom capacity level (BCL): Water level (elevation) above which the specified capacity is provided. BCL is water level (elevation) when tank is emptied through discharge fittings.
 - 4. Maximum operation level (MOL): MOL is equal to TCL.
 - 5. Tank capacity: Net volume, in gallons, that may be removed from a tank filled to top capacity level and emptied to bottom capacity level.
 - 6. Top capacity level (TCL): Water level (elevation) equal to lip of existing overflow.

1.05 SUBMITTALS

- A. Submit as specified in Section 01300- Contractor Submittals.
- B. Shop Drawings: Steel tank modification repairs, including bills of material, erection drawings, and weld inspection requirements:
 - 1. Repair layout and individual bottom repairs showing patch dimensions, welds, and inspection procedures.

2. Welded joints repair details and weld procedures as required by American Welding Society.
 - a. Weld Procedure Specification (WPS)
 - b. Performance Qualification Record (PQR)
 - c. Welder Performance Qualification Record (WPQR)
 3. Access Door details.
 4. Tank shell and bottom opening cutouts and retrofit for replacing underground piping.
 5. Temporary shell door opening.
 - a. Stability while door is open.
 - b. Repair details.
- C. Quality Assurance Submittals:
1. Source Test Reports:
 - a. Certified weld inspection reports.
 - b. Certification of shop-applied coatings.
 2. Qualifications:
 - a. Tank contractor.
 - b. Welder/welding operator.
 - c. Certified welding inspector (CWI).
 - d. Weld testing personnel.
 3. Field Test Reports:
 - a. Shop and field welding procedure specifications and supporting welding procedure qualification records.
 - b. Nondestructive weld testing procedure specifications.

1.06 QUALITY ASSURANCE

- A. Qualifications:
1. Tank repair designer: Registered professional engineer licensed shall have 5 years of experience with similar work.
 2. Tank contractor: Shall have completed construction or repair of a minimum of three 100,000 gallon steel tanks or larger within the last 5 years in accordance with AWWA D100.
 3. Certified welding inspector (CWI): Shall demonstrate a minimum 5 years of prior inspection experience using the referenced welding codes.
 4. Weld testing personnel: Shall demonstrate a minimum 5 years of prior testing experience using the methods referenced in this Section.
- B. Certifications:
1. Welding procedure specifications and qualification requirements: Document on appropriate forms located in appendices to referenced welding codes:
 - a. AWS D1.1 "sample welding forms".
 - b. B2.1, "Standard for Welding Procedure and Performance Qualification."
 - c. ASME BPVC, Section IX, Appendix A, Forms QW 482 and QW-483.
 2. Welder/welding operator: Certified in accordance with AWS QC7 by independent third party to perform welding procedure in accordance with referenced standards and codes. Document qualifications and certification on

appropriate forms located in appendixes of referenced welding standards or codes:

- a. AWS D1.1.
 - b. AWS B2.1.
 - c. Form QW-484 in Appendix A to ASME BPVC, Section IX.
 - d. Current and updated welding inspector certificate.
3. Certified welding inspector (CWI): Personnel shall be certified by the American Welding Society to AWS QC1.
 4. Weld testing personnel:
 - a. Shall hold an ASNT Level II certification or higher for each test method specified in this Section. Certification shall comply with ASNT SNT-TC-1A and all supplements.
 - b. Personnel shall meet qualification for welders and welding operators per AWWA D100 Section 8.2.2.
- C. Responsibilities:
1. Certified welding inspector (CWI):
 - a. Present for performance of shop or field welding.
 - b. Duties include at a minimum:
 - 1) Verify materials and storage.
 - 2) Verify welder/welding operator qualification.
 - 3) Monitor conformance with approved welding procedure specifications.
 - 4) Inspect joint fit up prior to welding.
 - 5) Visually inspect welding performed.
 - 6) Supervise testing personnel in performance of nondestructive testing and evaluate test results.
 - 7) Maintain records and prepare reports.
 - 8) Review Shop Drawings relevant to welding.
 2. Weld testing personnel: Perform nondestructive testing. Methods to include radiography, ultrasonic, magnetic particle, liquid penetrant, and as may otherwise be specified.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Storage and protection:
1. Protect items from weather.
 2. Material shall be stored off the ground and under cover. Tarps used for protection shall be vented to prevent condensation.
- B. Shop-primed material shall be handled with padded equipment and in a careful manner to prevent damage to the shop-applied coating.

1.08 PROJECT CONDITIONS

- A. Tank construction:
1. Confirm actual thicknesses where necessary prior to beginning work.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Steel and fasteners as specified in Section 05120 - Structural Steel Framing

2.02 ACCESSORIES

- A. Locate accessories as directed by District Representative. Sample port appurtenances, e.g. hose bib, shall have NSF 61 certification.
- B. Unless otherwise noted, coat all accessories with the same coating as specified for interior or exterior of tank in Section 09974 – Coating for Bolted Steel Water Storage Tanks.

2.03 FABRICATION

- A. Submit proposed design for the sample port and other penetrations including location, size, bracing, welding, proximity to existing welds, weld inspection, and replacement details.
 - 1. Design shall be sealed by a professional engineer licensed to practice engineering in the State of California.
 - 2. The following requirements apply to the penetrations, including the sample port and other repairs of tank shell and other structural repairs:
 - a. AWWA D100.

2.04 SOURCE QUALITY CONTROL

- A. Shop welds:
 - 1. Perform visual inspection.
 - 2. Acceptance standards in accordance with AWS D1.1, and additional nondestructive testing requirements as specified in this Section.

PART 3 EXECUTION

3.01 GENERAL SCOPE OF REPAIR

- A. Tank repairs and modifications include, but are not limited to, the following items:
 - 1. Tank inspection:
 - a. Inspect, inventory, and field measure components of tank as necessary to ascertain the conditions in preparation to perform the work described in this Section.
 - b. Inspect tank and weld condition after existing coating removal with the Owner and Engineer prior to beginning the repair work. Quantities for weld repairs will be paid as stipulated in the Bid Form.
 - 1) Provide access and lighting.

2. Where directed by the District Representative, replace welds as per below criteria.
 - a. Remove portions of weld in question to sound metal by arc-gouging or other means acceptable to the Engineer. Take precautions to avoid undercutting base metal.
 - b. Re-weld and test weld in accordance with AWWA D100.
3. Repair corrosion pits deeper than 1/4 the thickness of the base metal in floor plates and shell as directed by the Engineer:
 - a. Blast and clean surface to bare metal.
 - b. Grind corrosion pit to bare metal.
 - c. Develop weld procedures to ensure the process is compatible with the existing base metal.
 - d. Fill pit with compatible weld metal.
 - e. Grind repair flush prior to coating.
 - f. If a pit exceeds one-half the base metal thickness, patch the hole with a 1/4-inch by 12-inch square minimum plate. Weld perimeter of plate with a 1/4-inch fillet weld. Plate shall have rounded corners with one inch radius.
4. Repair bottom lap welds as directed by the Engineer:
 - a. Remove portions of weld in question to sound metal by arc-gouging or other means acceptable to the Engineer. Take precautions to avoid undercutting base metal.
5. Remove steel surface imperfections in accordance with NACE SP0178.
 - a. All rough welds shall be ground to remove sharp edges and other such irregularities. Welds shall be ground to NACE Weld Preparation Designation C.
 - 1) Welds shall be ground smooth; free of all defects.
 - 2) Weld splatter shall be removed and all surface imperfections shall be repaired, with no visible rough surfaces, undercutting, or pinholes.
 - 3) Weld shall be blended into the adjacent base materials.
 - b. Chipping may be used to remove sharp edges if followed by grinding.
 - c. Grinding shall be limited to achieve the specified level of surface finish. Over-grinding, which would result in decreasing the wall thickness or the integrity of the weld beyond the limitations imposed by good welding practice, applicable codes, or tank and vessel ratings, shall be avoided.
 - d. All weld splatter and arc strikes shall be removed. Chipping may be used if followed by grinding or the use of an abrasive:
 - 1) If an anti-splatter material is applied adjacent to the weld area prior to welding, the anti-splatter material shall be one that is readily removable. Anti-splatter materials shall be removed prior to abrasive blasting.
6. Remove existing interior tank ladder and support of level sensor using 316 stainless steel preformed channel pipe support.
7. The entire tank interior shall be abrasive blasted and recoated as specified in Section 09974 - Coating for Welded Steel Water Storage Tanks. Holiday detection test coating as specified in Section 09974 - Coating for Welded Steel Water Storage Tanks.
8. Hydro test tank in accordance with AWWA D100.
9. All removed materials shall be disposed in accordance by state and local requirements.

10. Install cathodic protection system: As specified in Section 15305 – Galvanic Anode Cathodic Protection for Welded Steel Tank if Bid Alternate 1A is approved by District:
 - a. Coordinate installation of welded clips, conduit supports, couplings, openings, and anchors required by cathodic protection system supplier to support system.
11. Remove steel surface imperfections in accordance with NACE SP0178.
 - a. Rough welds shall be ground to remove sharp edges and other such irregularities. Welds shall be ground to NACE Weld Preparation Designation C:
 - 1) Welds shall be ground smooth; free of defects.
 - 2) Weld splatter shall be removed and surface imperfections shall be repaired, with no visible rough surfaces, undercutting, or pinholes.
 - 3) Weld shall be blended into the adjacent base materials.
 - b. Chipping may be used to remove sharp edges if followed by grinding.
 - c. Grinding shall be limited to achieve the specified level of surface finish. Over-grinding, which would result in decreasing the wall thickness or the integrity of the weld beyond the limitations imposed by good welding practice, applicable codes, or tank and vessel ratings, shall be avoided.
 - d. Weld splatter and arc strikes shall be removed. Chipping may be used if followed by grinding or the use of an abrasive:
 - 1) If anti-splatter material is applied adjacent to the weld area prior to welding, it shall be one that is readily removable. Anti-splatter materials shall be removed prior to abrasive blasting.
12. Installation of sample station per Attachment A:
 - a. Cut opening in shell and grind smooth edge.
 - b. Weld pipe and reinforcing pad.
 - c. Weld pipe supports and bottom pad plates.
 - d. Test welds and reinforcing plate in accordance with API 653.
13. Entire tank interior and exterior shall be abrasive blasted and recoated as specified in Section 09974 - Coating for Welded Steel Water Storage Tanks. Holiday detection test coating as specified in Section 09974 - Coating for Welded Steel Water Storage Tanks.
14. Hydro test tank in accordance with AWWA D100.
15. Removed materials shall be disposed in accordance by state and local requirements.

3.02 WELDING

- A. General:
 1. Perform in accordance with AWWA D100 and ASME BPVC, Section IX, Part QW-Welding, as follows:
 - a. Include supplemental essential variables for toughness for shell joints.
 2. Perform only in presence of certified welding inspector (CWI).
 3. Welding required for repairs, shall be completed prior to painting.
 4. When welding a plate into an existing tank shell, consider fit up, heat input, and welding sequence to reduce the potential for distortion of the existing shell.
 5. After welding, welds shall be neutralized with a suitable chemical compatible with the coating products specified in Section 09974 - Coating for Welded Steel Water Storage Tanks.

3.03 ACCESSORIES

- A. Unless otherwise specified, install accessories in accordance with the manufacturer's and tank contractor's recommendations.

3.04 FIELD QUALITY CONTROL

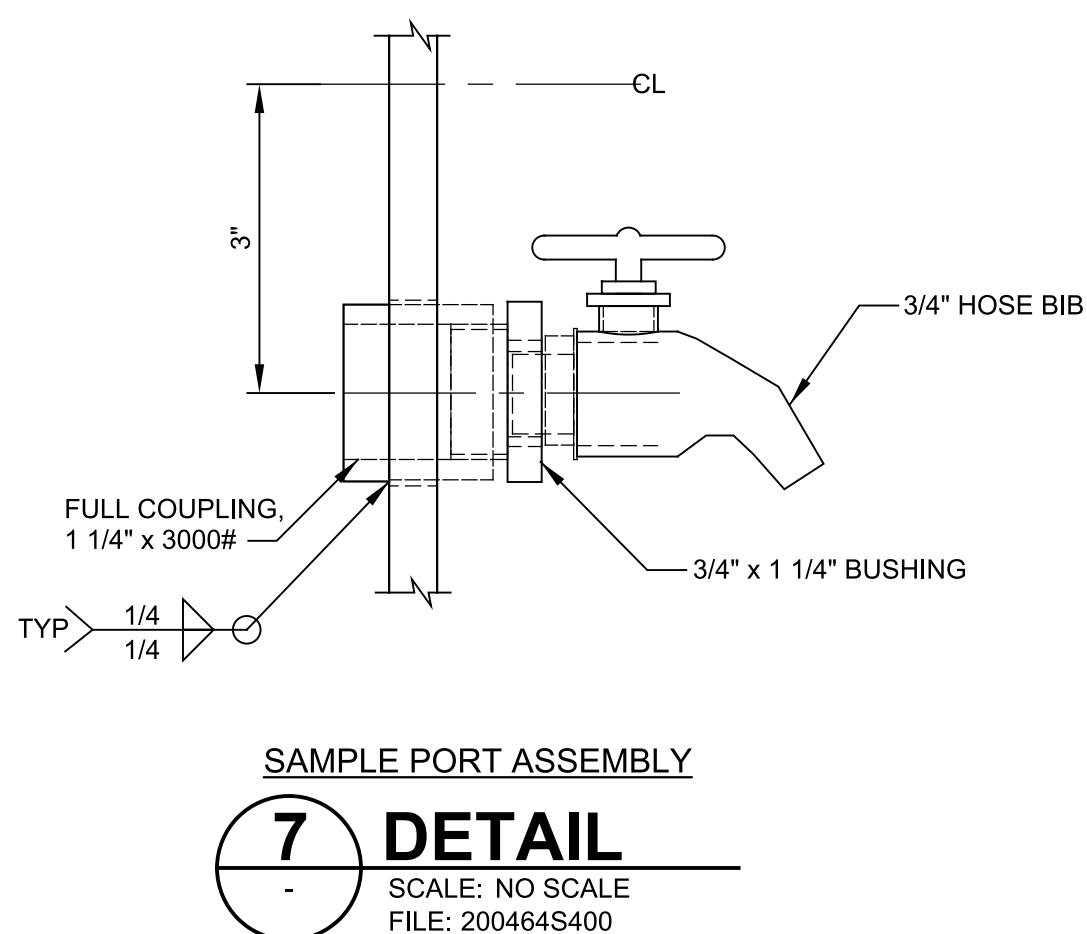
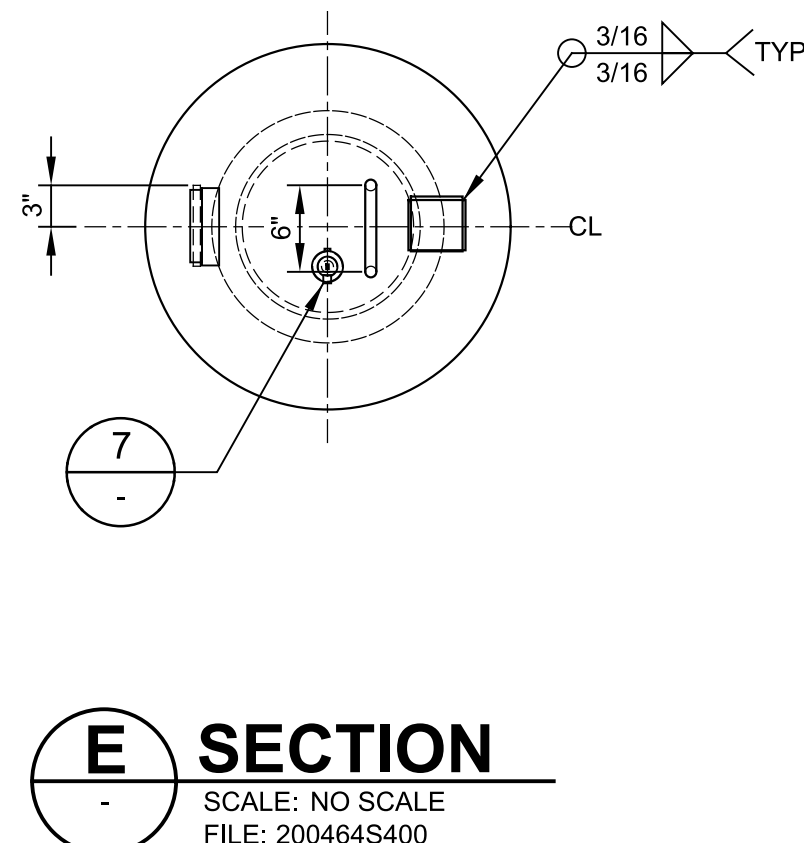
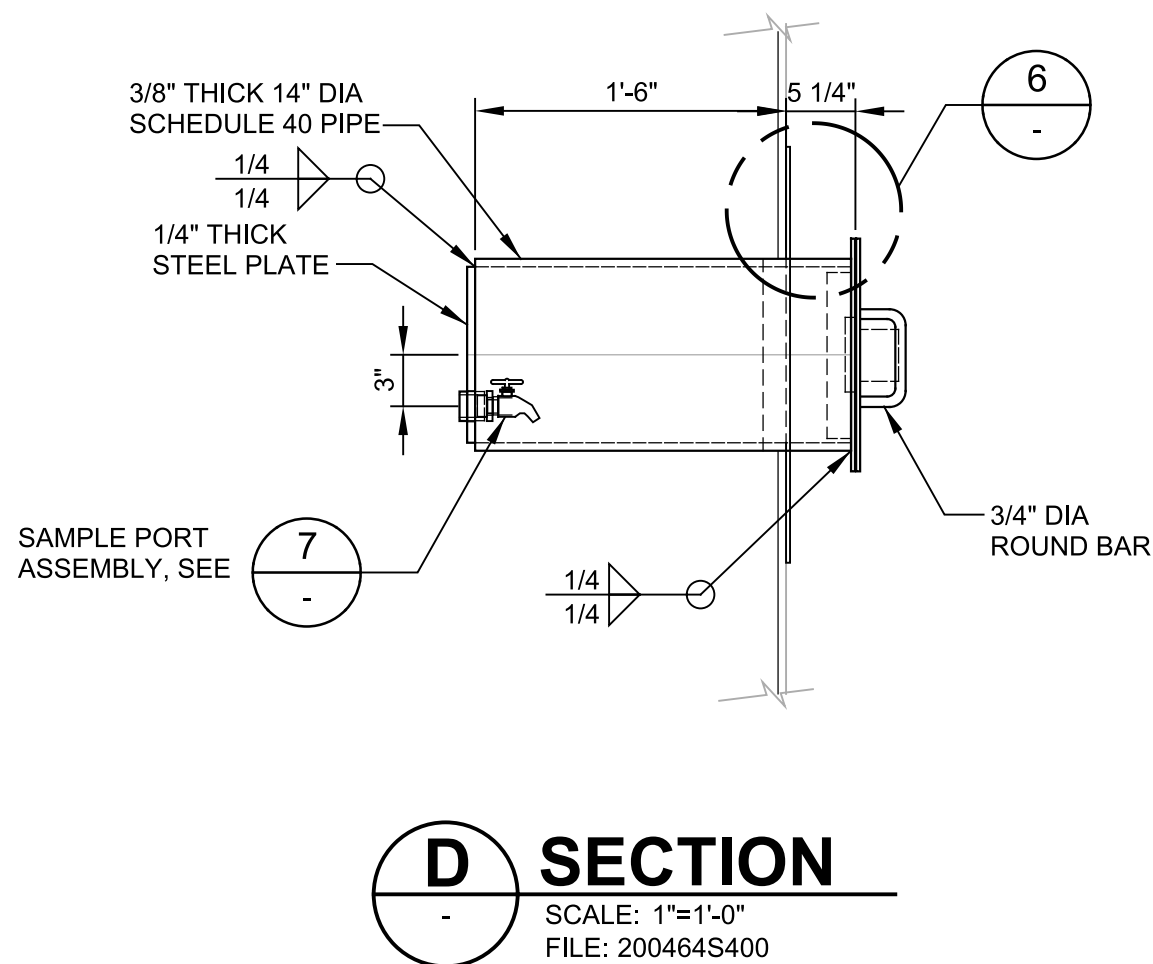
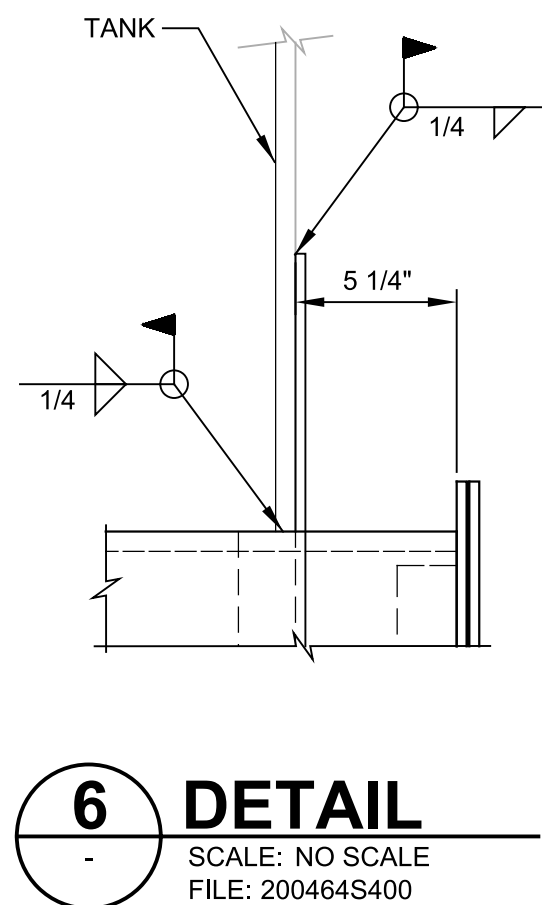
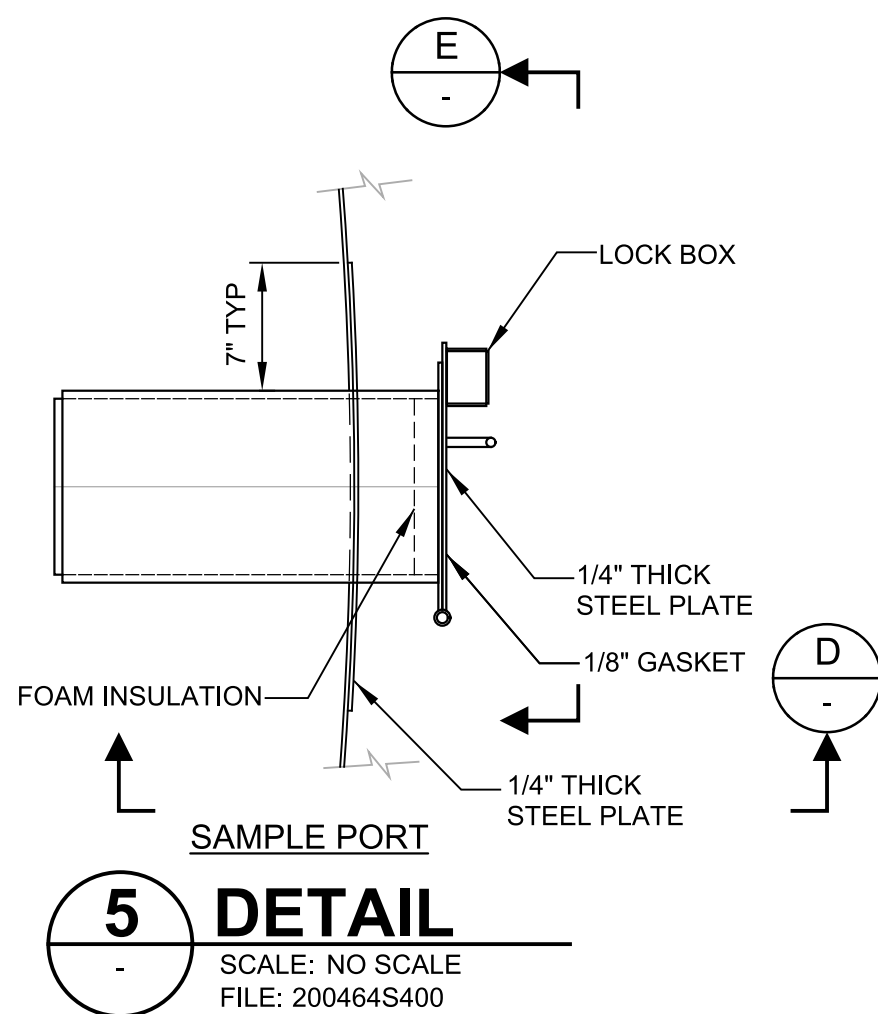
- A. Nondestructive testing and inspection of welds will be provided by the Owner's representative or testing laboratory:
 - 1. Owner will employ and pay for services of independent testing laboratory and welding inspector.
 - 2. Provide the Engineer with 1-week written notice in advance of any welding operations and written confirmation 24 hours in advance of any welding operations requiring inspection and/or nondestructive testing described in this Section. Contractor's 1-week written notice shall include description and location of the specific work being performed.
 - 3. Weld testing shall be in accordance with API 650/653 and AWWA D100. Where conflicts occur, the more stringent test shall be used.
 - 4. Visual inspection by certified welding inspector of all welds for acceptance in accordance with AWS D1.1, unless more stringent nondestructive testing is required in this Section.
 - 5. Shell: Spot radiographically examine in accordance with AWWA D100.
 - a. Openings:
 - 1) Groove welds: 100 percent ultrasonically test in accordance with ASME BPVC, Section VIII, Division 1, paragraph UW 53 and Appendix 12.
 - 2) Fillet welds: 100 percent magnetic particle test in accordance with AWS D1.1.
 - 6. Floor opening welds: 100 percent examine using nondestructive testing methods specified for shell opening welds.
 - 7. Accessories and attachments: Magnetic particle test at 10 percent rate in accordance with AWS D1.1.
 - 8. Welds that are identified by the Owner's representative or testing laboratory as defective shall be corrected by the Contractor at no additional cost to the Owner. Contractor shall pay for retests of corrected work.
- B. Contractor shall vacuum test welded flat bottom and hydro test tank in accordance with AWWA D100, except perform hydro test after painting is complete.
- C. Leak tests:
 - 1. Test tank floor in accordance with AWWA D100 after welding and before coating.
 - 2. Repair leaks appearing in the shell or bottom of the tank when it is first filled after coating. Recoat the affected areas after repairing leaks.
 - 3. Owner will provide water for testing the tanks for the first test at no cost to the Contractor. Contractor is responsible for the cost for water for subsequent tests.
 - 4. Provide all equipment, piping, valves, pumps, and other facilities required to fill the tanks for any and all test work.

3.05 CLEANING AND DISINFECTION

- A. Remove spent abrasive and debris.
- B. Disinfect tank as specified in Section 01757 - Disinfection.

END OF SECTION

ATTACHMENT A – SAMPLE STATION DETAIL



WATER TANK SAMPLE STATION DETAILS

SECTION 15305

GALVANIC ANODE CATHODIC PROTECTION FOR WELDED STEEL TANK

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Galvanic anode cathodic protection system for welded steel tank.

1.02 REFERENCES

- A. American Society of Mechanical Engineers (ASME):
 - 1. B1.1 - Unified Inch Screw Threads (UN, UNR, and UNJ Thread Forms).
 - 2. B1.20.1 - Pipe Threads, General Purpose, Inch.
- B. American Welding Society (AWS):
 - 1. D1.1/D1.1M - Structural Welding Code - Steel.
- C. Association for Materials Protection and Performance (AMPP) (formerly NACE):
 - 1. SP0177 - Mitigation of Alternating Current and Lightning Effects on Metallic Structures and Corrosion Control Systems.
 - 2. SP0196 - Galvanic Anode Cathodic Protection of Internal Submerged Surfaces of Steel Water Storage Tanks.
 - 3. SP0286 - Electrical Isolation of Cathodically Protected Pipelines.
 - 4. TM0497 - Measurement Techniques Related to Criteria for Cathodic Protection on Underground or Submerged Metallic Piping Systems.
- D. ASTM International (ASTM):
 - 1. B3 - Soft or Annealed Copper Wire.
 - 2. B843- Magnesium Alloy Anodes for Cathodic Protection.
 - 3. C33/C33M - Concrete Aggregates.
 - 4. C94 - Ready-Mixed Concrete.
 - 5. D1248 - Polyethylene Plastics Extrusion Materials for Conductor and Cable.
 - 6. F436 - Standard Specification for Hardened Steel Washers Inch and Metric Dimensions.
 - 7. G193 - Standard Terminology and Acronyms Relating to Corrosion.
- E. National Electrical Manufacturers Association (NEMA):
 - 1. 250 - Enclosures for Electrical Equipment (1,000 V Maximum).
- F. NSF International (NSF):
 - 1. 61/600 - Drinking Water System Components - Health Effects.
- G. Underwriters Laboratories, Inc. (UL).

1.03 TERMINOLOGY

- A. The words and terms listed below are not defined terms that require initial capital letters, but, when used in this Section, have the indicated meaning. For additional terminology and acronyms used in the corrosion industry, refer to ASTM G193:
1. Bonded dielectric coating: Protective barrier coating system with high electrical resistivity bonded directly to underlying structure, acting to physically and electrically isolate metallic structure from electrolyte.
 2. Cathodic protection:
 - a. Galvanic anode cathodic protection: Reduction of corrosion of metal in electrolyte by galvanically coupling to more anodic metal:
 - 1) Also referred to as sacrificial or passive protection.
 - b. Impressed current cathodic protection: Reduction of corrosion of metal in electrolyte by supplying DC current through external power source and employing impressed current anode:
 - 1) Also referred to as active protection.
 3. Electrical isolation: The condition of being electrically separate from other metallic structures (including, but not limited to, piping, reinforcement, casings) and the environment as defined in NACE SP0169.
 4. Electrically continuous: A structure which has a linear electrical resistance equal to or less than the sum of the resistance of the structure plus the maximum allowable joint bond resistance for each bonded joint as specified in this Section.
 5. Electrolyte: Electrically conductive solution, such as soil or water:
 - a. Terms for specific conductive solutions may be substituted for “electrolyte” in these definitions:
 - 1) Conductive solutions include:
 - a) Water.
 - b) Soil.
 - c) Concrete.
 - d) Other conductive liquid medium.
 6. Foreign structure: Buried structure not owned or operated by the Owner.
 7. Reference electrode: Electrode whose open circuit potential is constant under similar conditions of measurement; used for measuring relative potentials of other electrodes (e.g., protected structures):
 - a. Sometimes referred to as reference half-cell.
 - b. Copper-copper sulfate reference electrode (CSE) is often used.
 8. Structure-to-electrolyte potential: Potential of structure in electrolyte as compared to potential of reference electrode contacting same electrolyte:
 - a. Static: Determined without any external current:
 - 1) For instance: Prior to energizing cathodic protection system, and with no galvanic couple, pH cell, interference currents, or like present, or,
 - 2) After such current source has been disconnected for an extended amount of time.
 - 3) Also referred to as native.
 - b. Uncorrected: Determined with cathodic protection system energized and cathodic protection current flowing:
 - 1) Also referred to as protective potential (ON potential) and may contain significant IR drop error.

- c. Polarized: Determined after cathodic protection system has been energized, but immediately after cathodic protection current is interrupted:
 - 1) Also referred to as "instant off" structure-to-electrolyte potential.
- d. Polarization: Change from static or native potential as result of current flow across electrode/electrolyte interface:
 - 1) Also considered difference between polarized and native potentials.

1.04 SUBMITTALS

- A. Furnish Submittals as specified in Section 01330 - Submittal Procedures.
- B. Qualifications:
 - 1. Documentation of welder qualification in accordance with AWS D1.1 requirements.
- C. Product data:
 - 1. Include as a minimum:
 - a. Galvanic anodes.
 - b. Anode mounting system.
 - c. Junction box.
 - d. Shunts.
 - e. Variable resistors.
 - f. Penetration fitting components.
 - g. Cables.
 - h. Cable splice kits for anode header cable.
 - i. Cable labels.
 - j. Cable terminals.
 - k. Conduit.
 - l. Exothermic welding equipment (molds, cartridges, primer, caps).
 - m. Dielectric coating systems for exothermic welds, metallurgical, and mechanical bonds.
 - n. Permanent reference electrodes.
 - o. DC Decoupler
- D. Quality Control Submittals:
 - 1. Certifications:
 - a. For personnel conducting or directing testing and installation work:
 - 1) Include experience for 3 verifiable projects with cathodic protection similar in scope to the specified Work being performed.
 - b. Welder.
 - 2. List of test equipment, test methods, and criteria requirement that will be used for each test, including as a minimum:
 - a. Anode open circuit potentials.
 - b. Anode current outputs.
 - c. Native potential readings for each protected structure.
 - d. ON and Instant-OFF potential readings from each permanent reference electrode.
 - 3. Testing Report:
 - a. After completion of testing, submit the results from initial and subsequent testing.

- b. Include location of permanent reference electrode and structure connection during each test (when applicable to the test).
- c. Include location of junction box (when applicable to the test):
 - 1) Use unique identifier and GPS coordinates.
 - 2) List of cable identification in enclosures.
- d. Format results as a report and include analysis and recommendations.

1.05 QUALITY ASSURANCE

- A. Installation and testing conducted by or under direction of cathodic protection technologist (NACE CP3) or cathodic protection specialist (NACE CP4).
- B. Welder:
 - 1. Qualified in accordance with AWS D1.1.
- C. Materials, installation, and testing:
 - 1. Consistent with corrosion engineering principles and practices in accordance with NACE SP0177, NACE SP0196, NACE SP0286, and NACE TM0497.
 - 2. Electrical items shall be UL listed or labeled, where such listing or labeling is obtainable.
 - 3. Materials or products which can contact potable water shall require approval under NSF 61/600.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. As specified in Section 01600 - Product Requirements and the manufacturer's instructions.
- B. Material:
 - 1. Store off the ground.
 - 2. Protect against weather, condensation, and mechanical damage.
 - 3. Handle with care.
 - 4. Do not sharply bend or tightly coil wires.
 - 5. Replace equipment or materials damaged in shipment or installation.
 - 6. Reference electrodes:
 - a. Do not allow to freeze.
 - b. Store in a protected area.
 - c. Protect from UV exposure.
 - d. Utilize before shelf life expires.
 - 7. Isolation:
 - a. Do not store insulated flange gaskets at jobsites under direct sunlight or at temperatures exceeding 110 degrees Fahrenheit.
 - b. Protect against mechanical damage.
 - 8. Anodes:
 - a. Shipped in waterproof bags or wrapping and shall remain dry until installation.
 - b. Coil the anode core cables and secure and package the anode in crates as required to prevent damage during shipping.
 - c. Ensure that the cable is not damaged and that the anodes or lead connection at the anode end are not physically stressed.
 - d. If anode or anode core cables are damaged, replace the entire anode.

PART 2 PRODUCTS

2.01 GENERAL

- A. Provide cathodic protection systems for the following features as indicated on the Drawings in the Appendix:
 - 1. Donner Tank interior (welded steel).

2.02 DESIGN AND PERFORMANCE CRITERIA

- A. Provide corrosion-engineering services to furnish, install, and test galvanic cathodic protection systems:
 - 1. Include isolation and accessory equipment and features as directed in this Section or otherwise indicated.
- B. Galvanic cathodic protection systems shall provide a minimum service life of 20 years.

2.03 ANODES

- A. Manufacturers: One of the following or equal:
 - 1. Anode Systems Company, Grand Junction, CO.
 - 2. Farwest Corrosion Control Company, Downey, CA.
 - 3. Galvotec Alloys, McAllen, TX.
 - 4. MESA Products, Denver, CO.
- B. General:
 - 1. Open circuit potential of -1.65 volts or more negative in reference to a copper-copper sulfate reference electrode.
 - 2. Dimensions:
 - a. Anode dimensions are as specified in the table below.

Anode Dimensions				
Anode Location in Tank	Minimum Bare Weight (pounds/foot)	Ingot Length (feet)	Ingot Diameter (inches)	Number of Anodes
Outer ring anode	1.5	13.0	1.561	7
Inner ring stub anode	1.5	1.0	1.561	7

- 3. Factory anode-to-cable connection: Exposed mild steel core and exposed copper cable potted in epoxy.
- 4. Silver-solder connection between anode cable and mild steel core.
- 5. Anode core cable:
 - a. Connection of wire to anode with a pulling strength that exceeds the wire's tensile strength.
 - b. Minimum of 3 feet in length or sufficient length to reach header cable splice point, whichever is greater.

- C. Magnesium:
 - 1. High potential extruded rod magnesium anodes in accordance with ASTM B843.
 - 2. High potential magnesium anode composition:
 - a. Aluminum (Al): 0.010 percent maximum.
 - b. Manganese (Mn): 0.50 to 1.30 percent.
 - c. Copper (Cu): 0.02 percent maximum.
 - d. Nickel (Ni): 0.001 percent maximum.
 - e. Iron (Fe): 0.03 percent maximum.
 - f. Silicon (Si): 0.05 percent maximum.
 - g. Other impurities: Each 0.3 percent maximum.
 - h. Magnesium (Mg): Balance.

2.04 ANODE MOUNTING SYSTEM

- A. Anode mounting system to suspend anodes in two rings within tank, as indicated on the Drawings in the Appendix.
- B. Mounting system components shall include, at minimum:
 - 1. Coated stainless steel wire rope.
 - 2. Coated steel support bracket and D-ring.
 - 3. Heat shrink tubing for support bracket/wire rope connection.
 - 4. Associated hardware.
 - 5. Dielectric tape wrap for anode.
- C. Ensure support bracket and stainless steel wire rope are thick enough to withstand ice loading of a min. of 6" thick, along with the weight of the anodes.

2.05 JUNCTION BOX

- A. Manufacturers: One of the following or equal:
 - 1. Farwest Corrosion Control Company, Downey, CA.
 - 2. MESA Products, Denver, CO.
 - 3. Universal Rectifiers, Rosenberg, TX.
- B. Installation and layout as indicated on the Drawings in the Appendix.
- C. Specifically constructed for cathodic protection system installations.
- D. Protected as required for permanency.
- E. Combination bracket for pole or wall mounting.
- F. Enclosed within a NEMA 250 Type 3-R cabinet constructed of 16-gauge or thicker galvanized steel:
 - 1. Vented for heat dissipation.
 - 2. Lockable.
 - 3. Weatherproof.

- G. Engraved 1/4-inch minimum NEMA Grade C phenolic panel.
- H. Internal components:
 - 1. Equip with 0.1 ohm calibrated shunt for each anode ring.
 - 2. Equip with variable resistor for each anode ring such that current output can be adjusted as required to meet protection criteria without overprotection.
- I. Terminals:
 - 1. Identified terminals.
 - 2. Solderless, pressure-type terminals.
 - 3. Sufficient number of terminals with associated hardware for number and size of cables and required accessories.
- J. Cables: As specified in the Cable Details table below.

2.06 PENETRATION FITTING

- A. Manufacturer: Conax Technologies, Houston, TX, or equal:
 - 1. Alternate product or method may be submitted for approval.
- B. Installation and layout as indicated on the Drawings in the Appendix, or following other approved method.

2.07 CABLES

- A. Manufacturers: One of the following or equal:
 - 1. Corpro Inc., Chicago, IL.
 - 2. Farwest Corrosion Control Company, Downey, CA.
 - 3. MESA Products, Tulsa, OK.
- B. In accordance with ASTM B3.
- C. Manufactured not more than 24 months prior to notice to proceed.
- D. Single-conductor:
 - 1. Stranded, plain, annealed copper cable.
- E. Insulation:
 - 1. Rated for 600 volts and direct immersion or burial.
 - 2. In accordance with ASTM D1248.
 - 3. Insulation as specified in the table below.
- F. Suitable lengths to permit installation from terminus to terminus (e.g., structure-to-test station or structure-to-structure) free of splices and without stress, unless otherwise specified.

- G. Cable gauges:
1. Sizes are as specified in the table below:

Cable Details			
Cable Type	Cable Size (AWG)	Insulation	Color Code
Structure cable	#6 or larger	HMWPE	Black
Galvanic anode cable/core cable	#8 or larger	HMWPE	Red
Galvanic anode header cable	#8 or larger	HMWPE	Red
Reference electrode cable	#14 or larger	HMWPE	Yellow

2.08 CABLE LABELS

- A. Materials shall be suitable for permanent identification.

2.09 CABLE TERMINALS

- A. Materials compatible for attachment to junction box or other attachment points as applicable.

2.10 CONDUIT

- A. Rigid hot dipped galvanized steel conduit and fittings:
1. Threaded at one end (minimum).
 2. Length as required for installation requirements.
 3. Diameter based on cable needs: 2 inch minimum.
 4. For cables installed in UV exposure.
- B. Schedule 40 PVC conduit and fittings:
1. Length as required for installation requirements.
 2. Diameter based on cable needs: 2 inch minimum.
 3. For cables installed in immersion.

2.11 STRUCTURE CONNECTIONS

- A. Manufacturers: One of the following or equal:
1. Continental Industries, Inc. (Thermo-Weld), Tulsa, OK.
 2. Erico Products Inc. (Cadweld), Cleveland, OH.
- B. Exothermic metallurgical welds - Cable to structure connections:
1. Thermite weld materials consist of wire sleeves, weld molds, and weld cartridges according to the weld manufacturer's recommendations.
 2. Welding materials and equipment shall be the product of a single manufacturer. Interchanging materials of different manufacturers is not acceptable.
 3. Exothermic metallurgical weld system designed for:
 - a. Cathodic protection systems.
 - b. Metallic substrate material.
 - c. Weld orientation (vertical or horizontal).
 - d. Wire size, number of wires to be welded, and requirements for wire sleeves (if applicable).

4. Exothermic reaction must produce molten copper, which produces a permanent, high conductivity connection.
5. Exothermic welds:
 - a. Use a special alloy to provide minimum heat effect on substrate material.
 - b. Shall have a current carrying capacity equal to or better than that of the conductor.
6. Molds:
 - a. Graphite: As recommended by the manufacturer for structure and cable size.
7. Adapter sleeves:
 - a. Use adapter sleeves as needed to fit weld molds with cable sizes specified.
 - b. Prefabricated factory sleeve joint bonds or bond wires with formed sleeves made in the field are acceptable. Attach field-formed joint bonds sleeves with the appropriate size and type of hammer die furnished by the thermite weld manufacturer.
 - c. Extend wire conductor 1/8 inch beyond the end of the adapter sleeve.
8. Cartridges:
 - a. In accordance with the weld manufacturer recommendations.

2.12 DIELECTRIC COATING FOR EXTERIOR WELD CONNECTIONS

- A. Manufacturers: One of the following or equal:
 1. Carboline, St. Louis, MO.
 2. Royston Laboratories, Pittsburgh, PA.
- B. Product:
 1. Bitumastic 50.
 2. Roskote A51.
 3. Royston Handy Cap IP.
- C. Specifically designed for cathodic protection systems.
- D. Integrated primer or applied with primer coat, as needed.
- E. Suitable for the intended environment.
- F. Coat exposed weld nuggets, exposed cable, and exposed structure metal using the dielectric coating.

2.13 PERMANENT REFERENCE ELECTRODES

- A. Manufacturers: One of the following or equal:
 1. Corrpro Inc., Chicago, IL.
 2. GMC Electrical, Inc, Corona, CA.
- B. Material:
 1. Permanent type, silver-silver chloride reference electrode.
 2. Suitable for intended environment.
 3. Minimum design life of 25 years.

- C. Cable:
 - 1. As specified in the Cable Details table in this Section.
 - 2. Length of 75 feet or sufficient length to reach junction box without splicing, whichever is greater.

2.14 REFERENCE ELECTRODE MOUNTING SYSTEM

- A. Reference electrode mounting system to attach reference electrodes to tank interior wall and floor, as indicated on the Drawings in the Appendix.
- B. Mounting system components shall include, at minimum:
 - 1. Coated L-bracket, jaw bracket, and U-bolt.
 - 2. Associated hardware.

2.15 DC DECOUPLER FOR TANK GROUNDING ISOLATION

- A. Provide DC isolation under normal cathodic protection operating conditions while providing a path for AC fault current, lightning current, and induced AC.
- B. Designed for use with cathodically protected structures and grounding systems.
- C. DC Blockers – Solid State Decoupler (SSD):
 - 1. Electrical capacities of 3.7KA fault current and 100 amperes lightning surge current.
 - 2. Asymmetrical DC blocking capabilities of –3 volts to +1 volts.
 - 3. Model No. SSD-3/1-3.7-100-R as manufactured by Dairyland Electrical Industries, or equal.
 - 4. Mounting Hardware: Manufacturer's standard.

2.16 MISCELLANEOUS MATERIALS

- A. Junction box wire terminations:
 - 1. One-piece, tin-plated crimp on ring tongue connector.
- B. Compression connectors:
 - 1. For in-line and tap splices shall be "C" taps made of conductive wrought copper.
 - 2. Sized to fit the wires being spliced.
 - 3. Applied with the crimp tool and die recommended by the manufacturer for the wire and tap connector size.
 - 4. Burndy Type "YC", or equal.
- C. Splice kit:
 - 1. Molded resin splice kit suitable for immersion and sized to fit cables.
- D. Dielectric tape:
 - 1. Linerless rubber high-voltage splicing tape and vinyl electrical tape suitable for moist and wet environments.
 - 2. Scotch 130C and Scotch 88.

PART 3 EXECUTION

3.01 GENERAL

- A. Electrical isolation:
 - 1. Structures to be cathodically protected shall be electrically isolated from other extraneous metal (e.g., foreign structures and rebar in concrete).
 - 2. Dissimilar metal (galvanic) couples shall be electrically isolated.

3.02 INSTALLATION

- A. Install materials and equipment according to the manufacturer's recommendations in accordance with the Drawings and Specifications.
- B. Welding of cathodic protection system mounting components to tank wall and floor shall be done after abrasive blasting and prior to recoating the tank:
 - 1. After installation, coat mounting components along with the tank.
 - 2. Do not install anodes or reference electrodes until recoating is completed. Do not coat anodes or reference electrodes.
- C. Galvanic anodes:
 - 1. Install anodes as indicated on the Drawings in the Appendix:
 - a. Weld anode ring mounting brackets and install anode mounting system (wire support ropes and associated components).
 - b. Install anodes in two anode rings in tank interior.
 - c. Do not support anodes by their cables, use coated stainless steel wire ropes.
 - d. Splice anode cables to anode ring headers. Run anode header cables from the interior of the tank to the exterior through an approved penetration fitting connection.
 - 2. Do not coat anode surfaces.
 - 3. Terminate anode ring headers in junction box, as indicated on the Drawings in the Appendix:
 - a. Do not connect anode headers to structures at junction boxes; energize systems only at time of testing.
 - b. For energization, connect outer anode ring header and inner anode ring header to structure through individual calibrated 0.1 ohm shunts and variable resistors within the junction box, as indicated on the Drawings in the Appendix.
- D. Permanent reference electrodes:
 - 1. Remove the plastic or paper wrapper and the protective cap from over the ceramic plug and install reference electrodes on mounting brackets as indicated on the Drawings in the Appendix:
 - a. Weld reference electrode mounting brackets and bolted connections.
 - b. Install three permanent reference electrodes in each tank:
 - 1) Install two reference electrodes on tank walls.
 - 2) Install one reference electrode on tank floor near the center of the tank.
 - c. Do not coat reference electrodes.

- d. Route reference electrode cables from the interior of the tank to the exterior through an approved penetration fitting connection.
 - e. Terminate each reference electrode cable in junction box on a separate terminal, free of splices.
 - 2. Activate in accordance with the manufacturer's written instructions.
- E. Conduits:
 - 1. Run cables through conduit:
 - a. Use PVC conduit within tank and transition to rigid metallic conduit for tank exterior.
 - b. Use penetration fitting as indicated on the Drawings in the Appendix, or other approved method, to allow cables to exit tank.
 - 2. Secure conduits entering junction box with double locknuts, one on the outside and one on the inside.
 - 3. Install insulated bushings and insulated throat connectors on ends of rigid metallic conduit.
 - 4. Use watertight couplings and connections. Install and equip boxes and fittings to prevent water from entering conduit or box. Seal unused openings.
- F. Junction boxes:
 - 1. General:
 - a. Mount and wire the junction boxes as indicated on the Drawings in the Appendix.
 - b. Uniquely label each junction box.
 - c. Cable sizes as specified in the Cable Details table in this Section.
 - 2. Location:
 - a. Against or mounted to outside tank wall.
 - b. Accessible at ground level, minimum of 4 feet from ground.
- G. Cables:
 - 1. Inspect for insulation defects prior to installing:
 - a. Replace cable if insulation is damaged.
 - 2. Install without kinks, stresses, and/or splices (except for anode core cable splices to anode header).
 - 3. Identify origin of cables terminating in an enclosure:
 - a. Cable identification to indicate the originating structure or anode as indicated on the Drawings in the Appendix.
 - b. Printed letters on shrinkable label attached to cables clearly visible within the enclosure.
 - c. Encase printed labels in clear heat shrink tubing.
 - 4. Run anode and reference electrode cables through conduit to junction box, as indicated on the Drawings in the Appendix:
 - a. Arrange cables neatly in enclosure. Cut to proper length and remove excess cable.
 - 5. Size of cable as specified in the Cable Details table in this Section.
 - 6. Structure cables:
 - a. 2 cables per structure near the junction box. Terminate structure cables in junction box, free of splices, as indicated on the Drawings in the Appendix.

- b. Connect cables to structures by exothermic metallurgical welding as indicated on the Drawings in the Appendix:
 - 1) Make exothermic metallurgical bond in accordance with the bonding supply manufacturer's instructions.
 - 2) Space exothermic welds at least 6 inches apart from other exothermic welds and fittings.
 - 3) After the weld has cooled, remove slag and then test the metallurgical bond integrity by striking the side of the weld nugget with a 16-ounce hammer:
 - a) Care shall be taken to avoid hitting the wires.
 - b) Defective welds shall be removed and replaced in a new location at least 6 inches from the original weld location:
 - (1) Follow the weld testing procedure as specified.
 - 4) Coat bare copper, weld nugget, and ferrous materials at metallurgical bonds with an approved dielectric metallurgical bond coating:
 - a) Allow dielectric material to cure before repair of damaged structure coating or lining.
- H. Isolation:
- 1. Tanks must be electrically isolated from tank grounding systems using DC blocking decouplers.
 - 2. Locations:
 - a. DC decoupler isolation at tank to grounding system connections.

3.03 WELDING

- A. In accordance with AWS D1.1.
- B. For welding cathodic protection system components to the tank wall and floor.
- C. No skip welds permitted. Continuous bead only.
- D. Weld prior to coating.

3.04 FIELD QUALITY CONTROL

- A. Testing shall be conducted by or under the direction of a cathodic protection technologist (NACE CP3) or specialist (NACE CP4).
- B. Equipment shall include, at minimum, but not be limited to:
 - 1. Portable multimeter: Fluke Model 179 or equal. Minimum input impedance of 10 megohms and capable of measuring DC voltages between 0.1 millivolt to 100 volts.
 - 2. Above ground insulation checker: M.C. Miller, Model MIC or equal.
- C. Prior to commissioning the cathodic protection systems:
 - 1. Exothermic weld testing:
 - a. Use a hammer to sharply hit the completed weld to knock off slag and physically test the completed exothermic connection. Pull on the bond wire to ensure there is a solid connection.

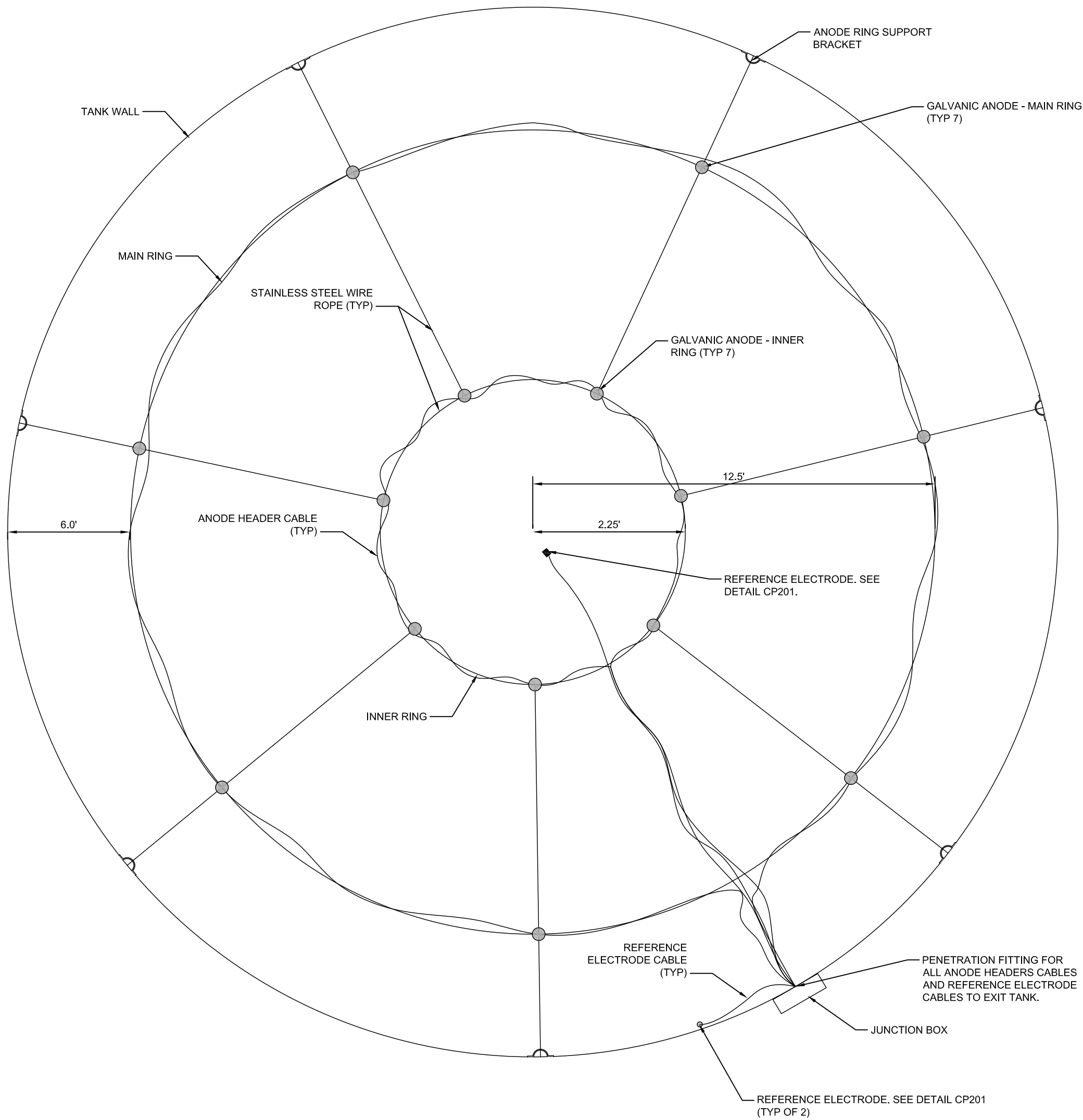
- b. Visually and physically inspect the condition of welds for solid type connection and appearance, with wire being completely encapsulated in a well-formed, solid weld.
 - c. For welds that fail, are porous, or have a wire that is not fully encapsulated, remove the old weld and redo the weld.
 - 2. Anode ring readings:
 - a. Open circuit potentials for each anode header.
 - 3. Native potential readings from each permanent reference electrode, prior to inducing a cathodic protection current on the pipe:
 - a. Place the common (black) lead on the permanent reference electrode cable and the positive (red) lead on the structure cable in the junction box.
 - b. Record potential reading, polarity, units, and reference electrode type.
 - 4. Verify that each junction box is properly labeled:
 - a. Unique identifier and GPS coordinates.
 - b. Cable identification in junction box.
- D. Cathodic protection system commissioning and testing:
 - 1. To be performed by the cathodic protection engineer.
 - 2. Commissioning:
 - a. Energize system:
 - 1) Connect structure cables to anode header cables in the junction box.
 - 2) Connect cables through a 0.1 ohm shunt.
 - 3) Include a variable resistor between the structure and anode header so that the system may be adjusted to provide sufficient DC current to comply with AMPP SP0196 protection criteria and without overprotection.
 - 4) At no time should the DC current output be at such a level to produce polarized potentials of -1,100 millivolt or more negative on a protected structure (as referenced to a copper-copper sulfate reference cell).
 - 3. Initial testing:
 - a. Determine the protective (uncorrected or ON) and polarized (Instant-OFF) structure-to-electrolyte potentials, in accordance with NACE TM0497:
 - 1) Measure referenced to each installed permanent reference cell.
 - 2) Place the common (black) lead on the permanent reference electrode cable and the positive (red) lead on the structure cable in the junction box.
 - 3) Record potential reading, polarity, units, and reference electrode type.
 - b. Determine current output of each anode ring in the junction box:
 - 1) Adjust the variable resistor setting for each anode ring to comply with protection criteria without overprotection.
 - c. Troubleshoot and correct problems.
 - 4. Subsequent testing cycles:
 - a. If issues were identified at commissioning, once the system has sufficiently stabilized, repeat testing to ensure the system meets protection criteria.
 - b. Testing will include the same steps as described in initial testing.
 - c. Troubleshoot and correct problems. Repeat subsequent testing as needed until protection criteria are met.

E. Reporting:

1. Submit final report with initial testing and subsequent testing data after the last testing cycle when performance criteria have been met and no further corrections are needed.

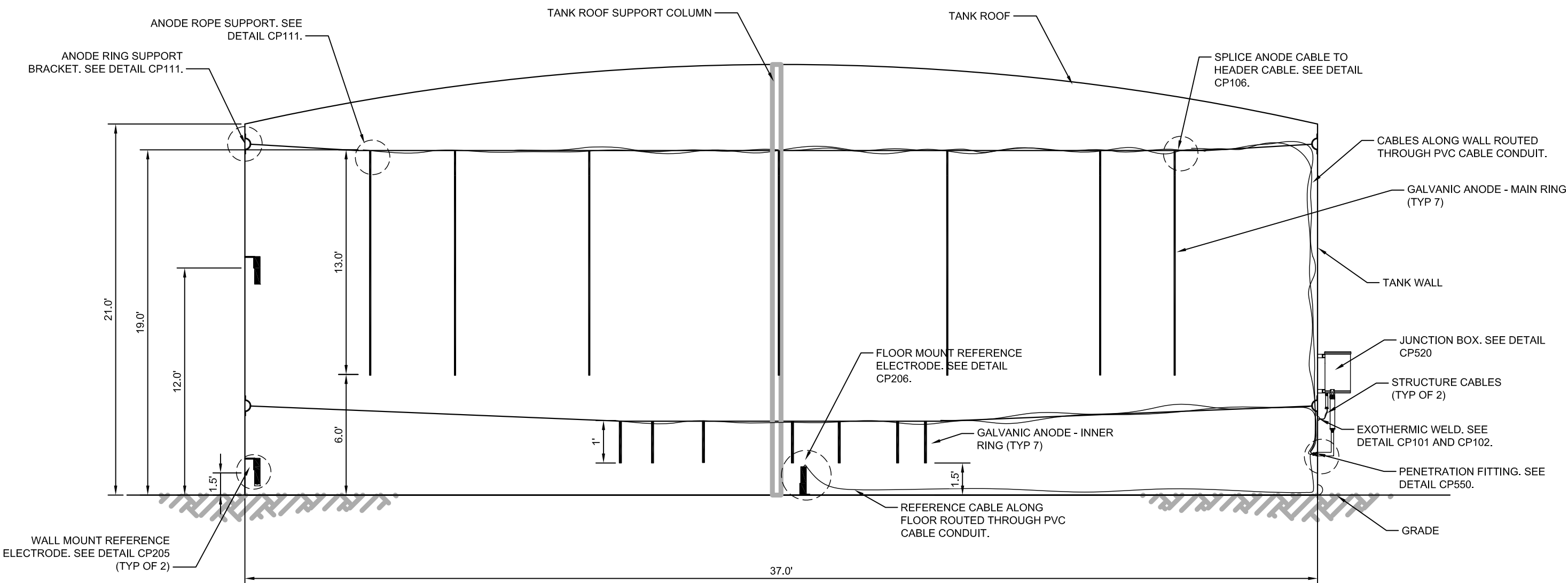
END OF SECTION

ATTACHMENT A - DONNER TANK CATHODIC PROTECTION DRAWINGS

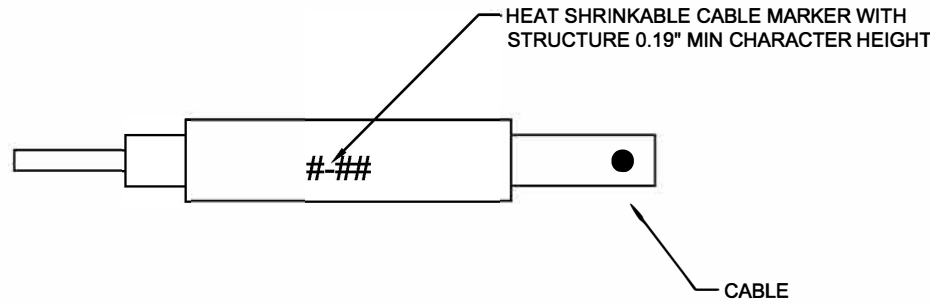


NOTES:

1. OUTER ANODE RING CONTAINS 7 ANODES EVENLY SPACED AROUND A 25' DIAMETER RING SUPPORTED BY WIRE ROPE.
2. INNER ANODE RING CONTAINS 7 ANODES EVENLY SPACED AROUND A 4.5' DIAMETER RING SUPPORTED BY WIRE ROPE.
3. INSTALL ANODE HEADER CABLES WITH SUFFICIENT SLACK TO PREVENT STRESS ON CABLES; LOOSELY WRAP AROUND WIRE ROPE FOR SUPPORT WHERE APPROPRIATE.
4. WELD ANODE SUPPORT BRACKETS TO TANK WALL FOR COATED WIRE ROPE TIE-OFF.
5. NO SKIP WELDING PERMITTED.
6. WELD REFERENCE ELECTRODE MOUNTING BRACKETS TO TANK WALL AND FLOOR PER DETAIL CP205 AND CP206.
7. COAT ALL BRACKETS AND SUPPORT MEMBERS AFTER WELDING TO TANK.
8. DO NOT COAT ANODES OR REFERENCE ELECTRODES.
9. ISOLATE INCOMING PIPE FROM TANK WALL AT FLANGE WITH ISOLATION FLANGE KIT, ISOLATION WASHERS AND SLEEVES PER DETAIL CP175.
10. PENETRATION FITTING IS USED TO MOVE CABLES FROM INSIDE THE TANK TO THE OUTSIDE. CONDUITS MUST BE SEALED TO PREVENT WATER INGRESS.
11. ALL CABLES ALONG WALLS AND FLOORS SHALL BE ROUTED THROUGH PVC CONDUIT INSIDE OF THE TANK, AND THEN TRANSITION TO METALLIC CONDUIT ON THE EXTERIOR OF THE TANK.
12. FLOOR MOUNT REFERENCE ELECTRODE LOCATION CAN BE ADJUSTED TO ACCOMMODATE THE ROOF COLUMN SUPPORT BASE.



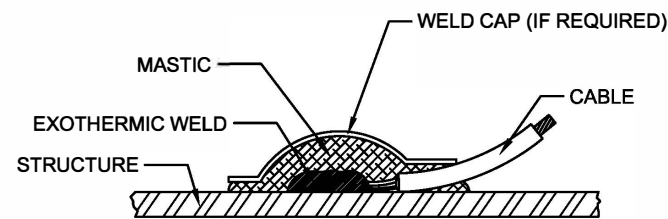
DONNER TANK PLAN AND PROFILE



NOTES:

1. COVER CABLE ID WITH CLEAR HEAT SHRINK TUBING.
2. CABLE ID REQUIRED FOR ANODES, STRUCTURES, REFERENCES, AND ALL ADDITIONAL CABLES ENTERING JUNCTION BOX.
3. IDENTIFY ALL CABLES ENTERING JUNCTION BOX PER CATHODIC PROTECTION CABLE DETAILS IN THE SPECIFICATIONS.

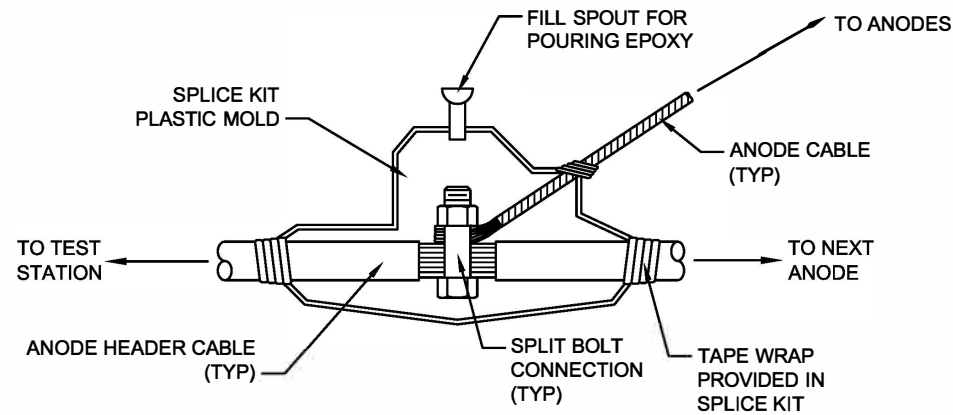
CP100 CABEL LABELING
DETAIL



NOTES:

1. REFER TO CP101 FOR EXOTHERMIC WELDING PROCEDURE.
2. CABLE SIZE MAY REQUIRE COPPER SLEEVE. SEE MANUFACTURER'S INSTRUCTIONS.

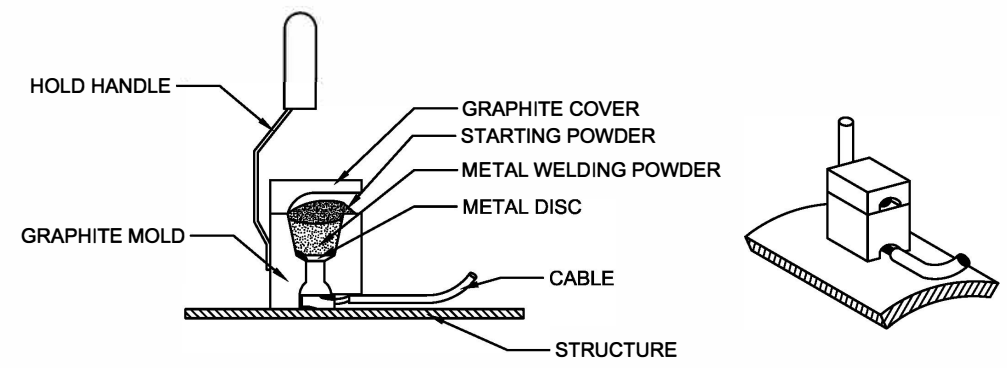
CP102 EXOTHERMIC WELD COATING
DETAIL



NOTES:

1. REMOVE SUFFICIENT INSULATION FROM CABLES TO INSTALL SPLIT BOLT CONNECTOR.
2. REMOVE ALL DIRT, GREASE, AND OTHER CONTAMINANTS FROM CABLES INSIDE SPLICE KIT BEFORE POURING EPOXY OR APPLYING HALF-LAPPED RUBBER TAPE.
3. EPOXY SPLICE KIT OPTION ALWAYS FIRST CHOICE. TO USE HALF-LAPPED TAPE OPTIONS CONSULT CATHODIC PROTECTION ENGINEER.
4. TYPICALLY A HEADER CABLE HAS A SINGLE ANODE CONNECTION AT EACH SPLIT BOLT. SOME CASES REQUIRE MULTIPLE ANODES AT A SINGLE SPLIT BOLT CONNECTION.
5. ENSURE CONNECTION AT SPLIT BOLT IS TIGHT AND SECURE PRIOR TO APPLICATION OF EPOXY MOLD..

CP106 SPLICE ANODE CABLE TO HEADER CABLE
DETAIL



STEP 1. GRIND STRUCTURE CONNECTION AREA (3" X 3") TO BARE SHINY METAL AND CLEAN.

STEP 2. STRIP INSULATION FROM WIRE. ATTACH COPPER SLEEVE (IF NECESSARY).

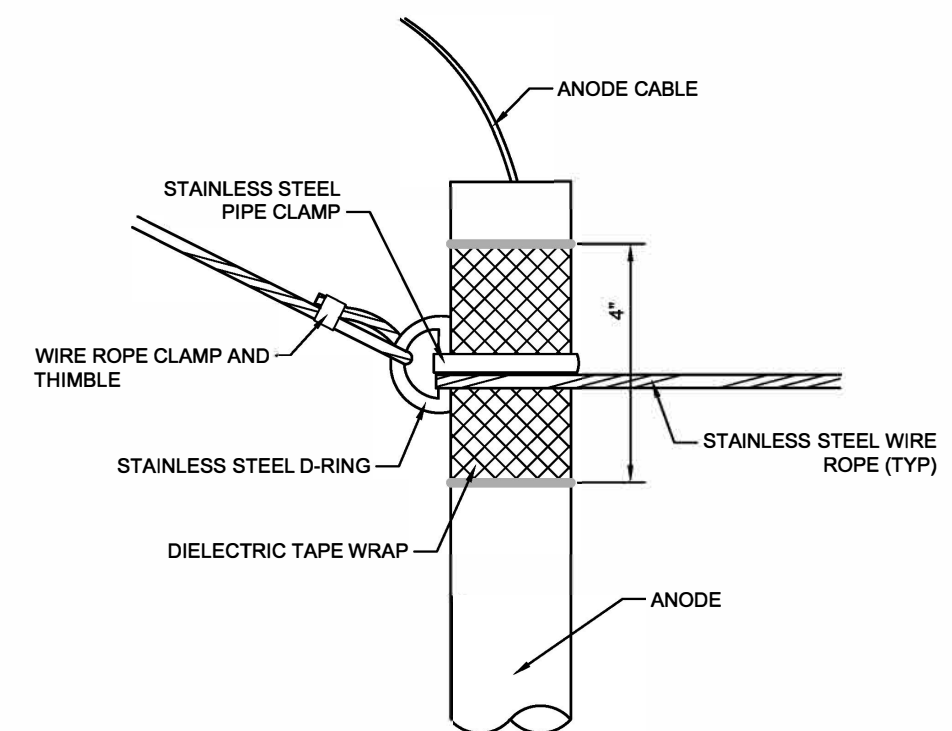
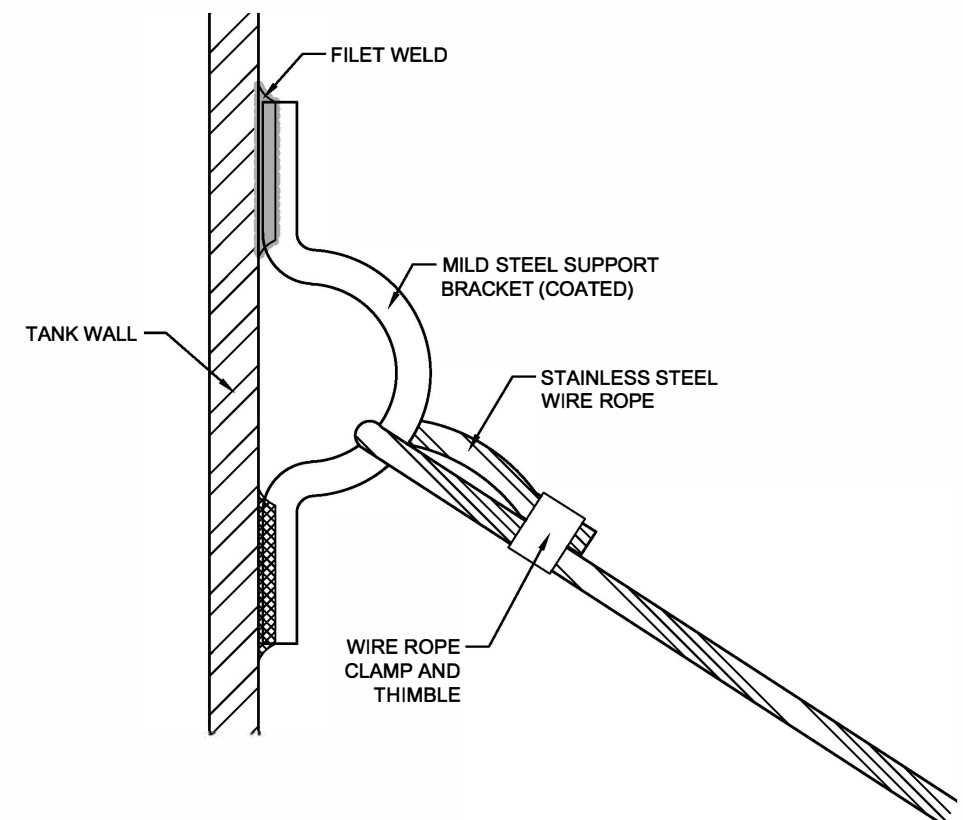
STEP 3. HOLD MOLD FIRMLY WITH OPENING AWAY FROM OPERATOR AND IGNITE WITH FLINT GUN.

STEP 4. REMOVE SLAG FROM CONNECTION AND PEEN WELD FOR SOUNDNESS.

STEP 5. FOR CONNECTION TO METALLIC STRUCTURES COVER CONNECTION WITH THERMITE WELD CAP. MAKE CERTAIN ALL COPPER IS COVERED. COAT WELD AREA WITH MASTIC COATING COMPOUND.

NOTE: PROCEDURE IS TO BE USED AS A GENERAL GUIDE ONLY. CONSULT MANUFACTURER'S LITERATURE FOR SPECIFIC INSTALLATION INSTRUCTIONS.

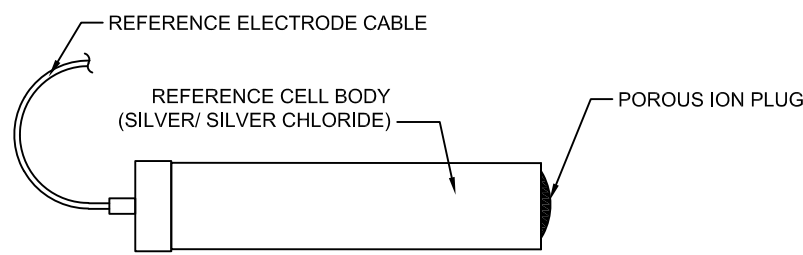
CP101 EXOTHERMIC WELDING PROCEDURE
DETAIL



NOTES:

1. ALL WIRE ROPE SHALL BE COATED WIRE ROPE.
2. ALL SUPPORT BRACKETS AND HARDWARE SHALL BE COATED AFTER WELDING TO TANK.
3. DO NOT COAT ANODES.
4. USE HEAT SHRINK TUBING ON SUPPORT BRACKET TO REDUCE WEAR BETWEEN BRACKET AND WIRE ROPE.

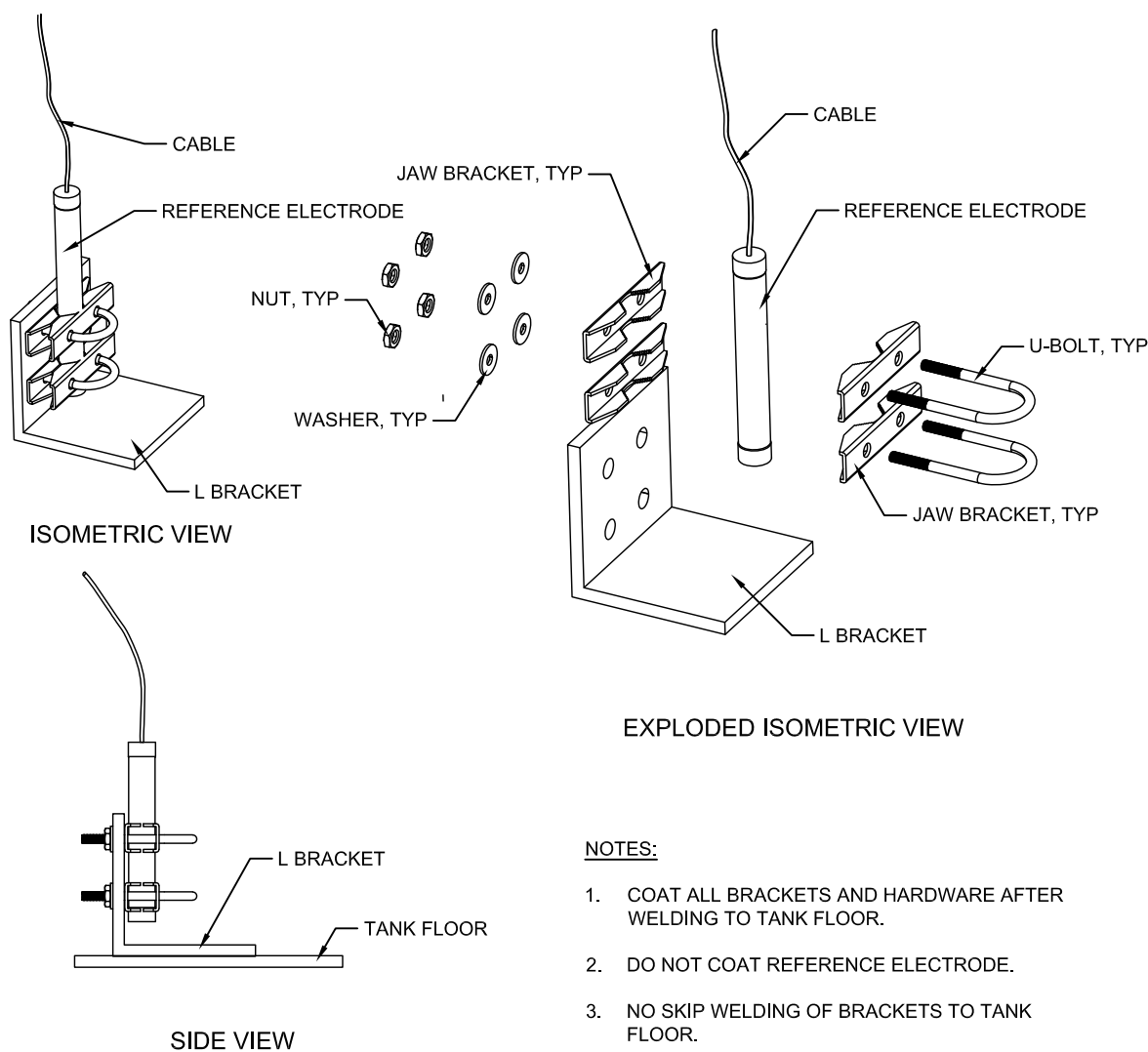
CP111 ANODE ROPE SUPPORT AND SUPPORT BRACKET
DETAIL



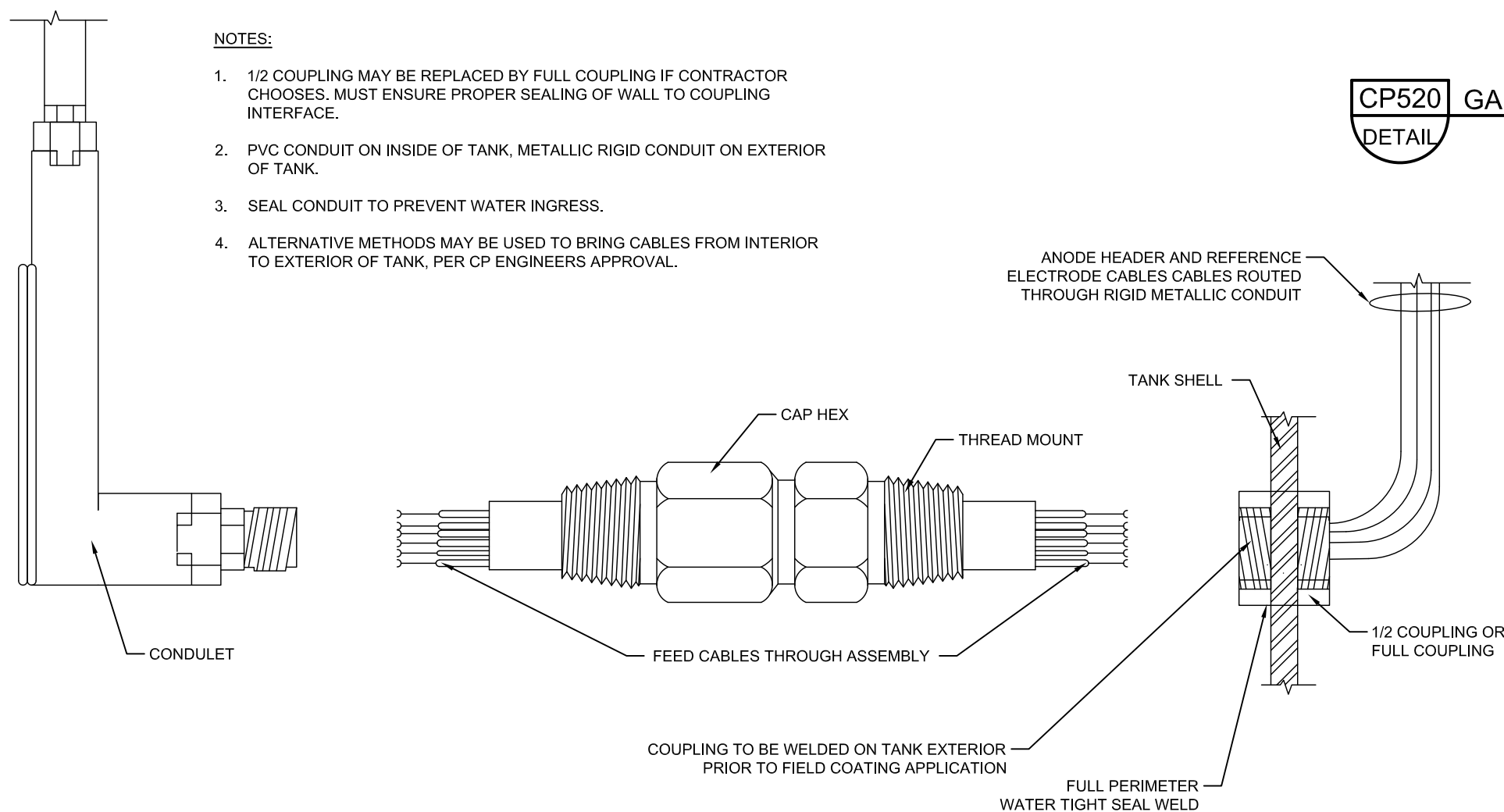
NOTES:

1. REFERENCE ELECTRODE SHALL BE DESIGNED FOR PERMANENT IMMERSION.
2. REMOVE PROTECTIVE END CAP FROM POROUS ION PLUG WITHIN 24 HOURS PRIOR TO IMMERSION.

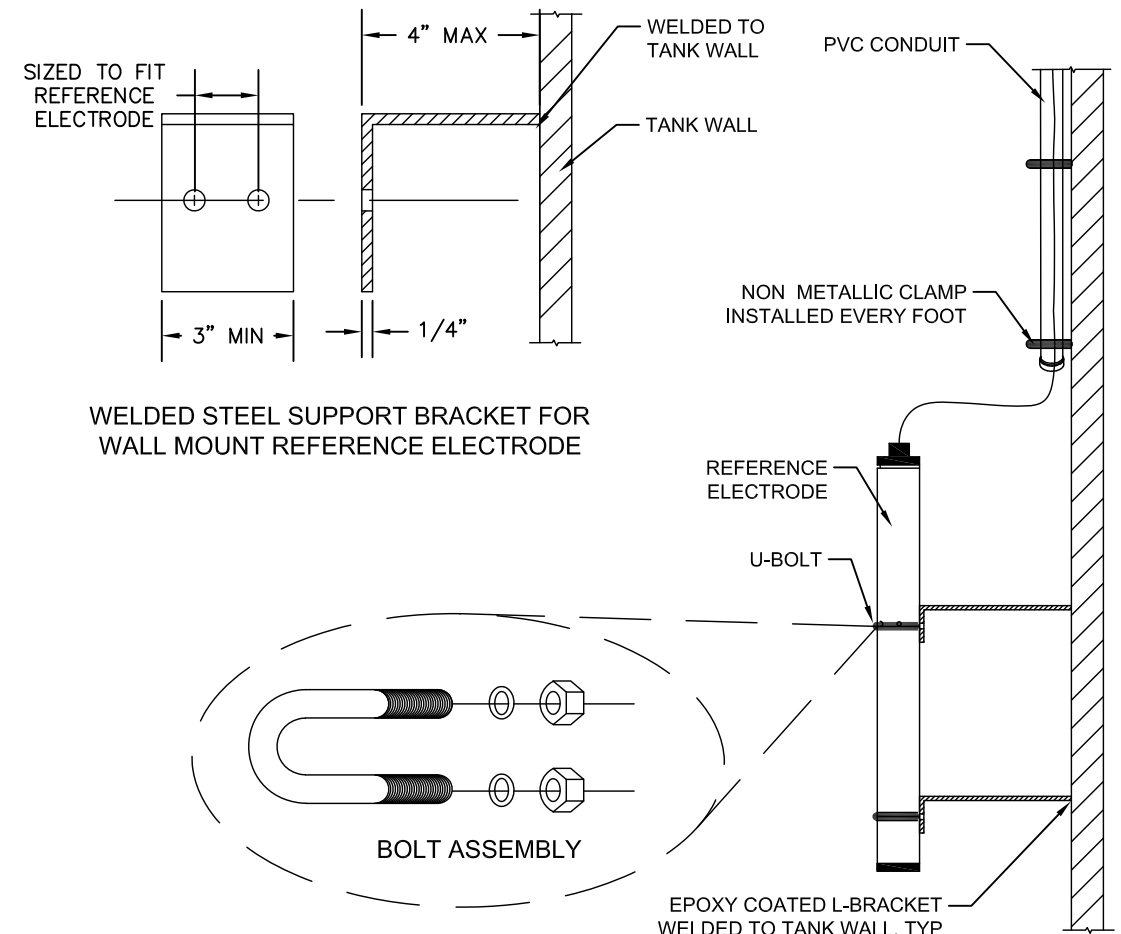
CP201 IMMERSED REFERENCE ELECTRODE
DETAIL



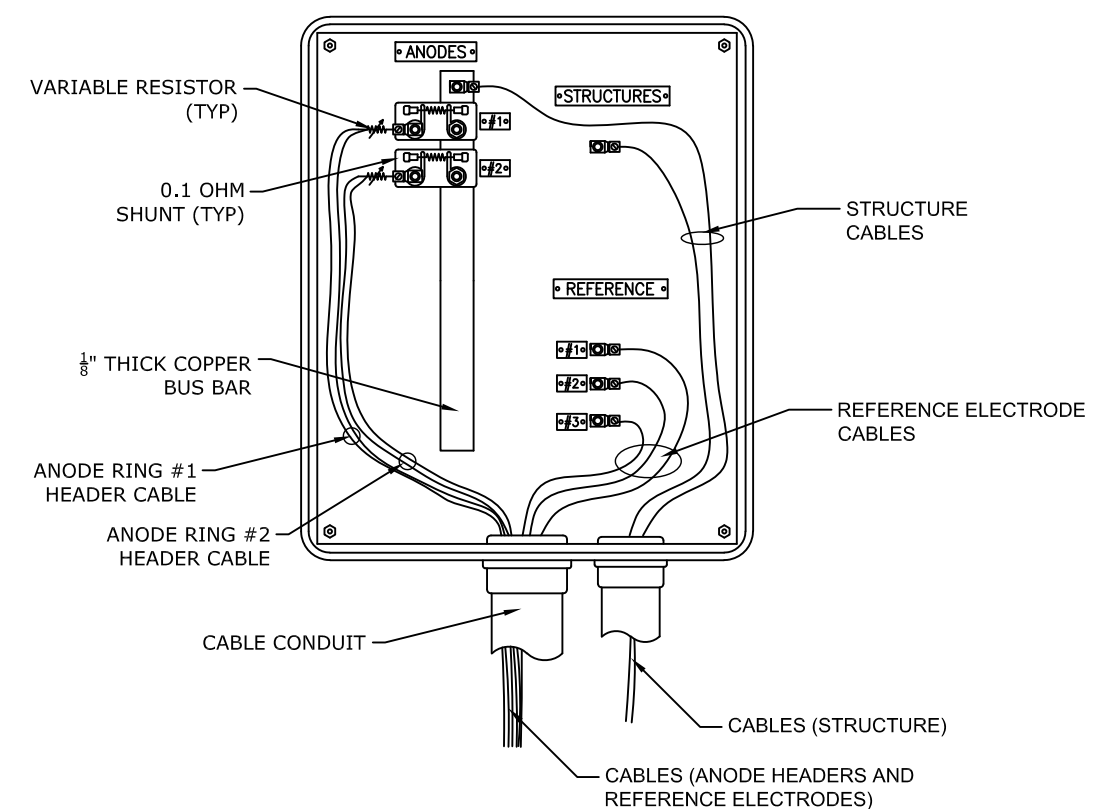
CP206 FLOOR MOUNT REFERENCE ELECTRODE BRACKET
DETAIL



CP550 PENETRATION FITTING FOR CP CABLES
DETAIL



CP205 WALL MOUNT REFERENCE ELECTRODE BRACKET
DETAIL



CP520 GALVANIC CATHODIC PROTECTION JUNCTION BOX
DETAIL