



San Lorenzo Valley Water District
13060 Highway 9
Boulder Creek, CA 95006-9119

Glen Arbor Bridge Pipeline Replacement Project
San Lorenzo Valley Water District
Boulder Creek, California

November 9, 2021

BID DOCUMENT VOLUME I OF II

**BIDDING REQUIREMENTS, CONTRACT
FORMS, CONDITIONS OF THE CONTRACT AND
TECHNICAL SPECIFICATIONS**

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ADVERTISEMENT FOR BIDS

**San Lorenzo Valley Water District
13060 Highway 9
Boulder Creek, CA 95006-9119**

Separate sealed Bids for the construction of the following:

- a. Hot tapping and connections to existing 6" pipelines in Highway 9 and Glen Arbor Road.
- b. Installing buried 8-inch pipelines and 8-inch pipeline suspended from an existing bridge structure, with all appurtenances.
- c. Attaching braces and supports for 8-inch ductile iron pipe to existing bridge.
- d. Pavement replacement as needed.
- e. Disinfection and pressure testing of the new piping.
- f. Other work as shown on the drawings.

all work to the satisfaction of the District as shown on the drawings in complete working condition will be received by the General Manager at the at the office of San Lorenzo Valley Water District until 2:00 PM Tuesday December 7, 2021 and then at said office publicly opened and read aloud.

The Contract Documents may be examined and copies obtained (\$100 fee per set) at the following location:

**San Lorenzo Valley Water District
13060 Highway 9
Boulder Creek, CA 95006-9119**

Or downloaded from the District website:

<https://www.slvwd.com/doing-business/pages/bid-opportunities>

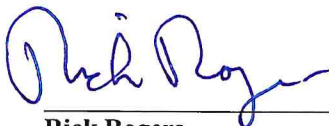
If downloaded a Contractor **must email** district at San Lorenzo Valley to notify the District of the Contractors name, address, telephone number and email address such that if Addendums are issued the Contractor will be notified.

Questions concerning these documents shall be directed to the District Engineer at: JWolff@SLVWD.com

A pre-Bid conference call will be held 10:00 a.m. on **November 16, 2021**. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are **encouraged** to attend and participate in the conference. Bidders may email the District Engineer JWolff@SLVWD.com for conference call invitations. Engineer will transmit to all prospective Bidders of record such Addenda as Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

Pre-Bid Call url: <https://global.gotomeeting.com/join/182545701>

Prospective Bidders shall be licensed Contractors in the State of California and shall be skilled and regularly engaged in the general class or type of work called for under the Contract. Each Bidder shall have a Class A California Contractor's license.



**Rick Rogers
General Manager
San Lorenzo Valley Water District
13060 Highway 9
Boulder Creek, CA 95006-9119**

Date: November 9, 2021

INSTRUCTIONS TO BIDDERS

ARTICLE 1 - DEFINED TERMS

1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

Issuing Office--The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

ARTICLE 2 - COPIES OF BIDDING DOCUMENTS

2.01 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the Advertisement for Bids may be obtained from the Issuing Office. The deposit will be refunded to each document holder of record who returns a complete set of Bidding Documents in good condition within 30 days after opening of Bids.

2.02 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.03 Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant for any other use.

ARTICLE 3 - QUALIFICATIONS OF BIDDERS

3.01 To demonstrate Bidder's qualifications to perform the Work, within five days of Owner's request, Bidder shall submit written evidence such as financial data, previous experience, present commitments, and such other data as may be called for below.

ARTICLE 4 - EXAMINATION OF BIDDING DOCUMENTS, RELATED DATA AND SITE

4.01 Subsurface and Physical Conditions

The Supplementary Conditions identify that no reports of subsurface and physical conditions have been prepared.

4.02 Underground Facilities

Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.

4.03 Hazardous Environmental Condition

The Supplementary Conditions identify that no reports of hazardous environmental conditions have been prepared.

4.04 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated conditions appear in Paragraphs 4.02, 4.03, and 4.04 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work appear in Paragraph 4.06 of the General Conditions.

4.05 On request, Owner will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to locating of excavation and utility.

4.06 Additional Owner Provided Information

Reference is made to the Supplementary Conditions for the identification of the general nature of other work that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) that relates to the Work contemplated by these Bidding Documents. On request, Owner will provide to each Bidder for examination access to or copies of Contract Documents (other than portions thereof related to price) for such other work.

Paragraph 6.13.C of the General Conditions states that if an Owner Safety program exists it will be noted in the Supplementary Conditions.

4.07 It is the responsibility of each Bidder before submitting a Bid to:

A. Examine and carefully study the Bidding Documents, the other related data identified in the Bidding Documents, and any Addenda;

B. Visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;

C. Become familiar with and satisfy Bidder as to all Federal, State, and local Laws and Regulations that may affect cost, progress, and performance of the Work;

D. Carefully study all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in Paragraph 4.02 of the General Conditions, and (2) reports and drawings of Hazardous Environmental Conditions at the Site which have been identified in the Supplementary Conditions as provided in Paragraph 4.06 of the General Conditions;

E. Obtain and carefully study (or accept consequences of not doing so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto;

F. Agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents;

G. Become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;

H. Correlate the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents;

I. Promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder; and

J. Determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

4.08 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding

Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 5 - PRE-BID CONFERENCE

5.01 A pre-Bid conference will be held via conference call at 10:00 a.m. on **November 16, 2021**. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are **encouraged** to attend and participate in the conference. Engineer will transmit to all prospective Bidders of record such Addenda as Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective. Prospective bidders should email the District Engineer JWolff@SLVWD.com for conference call invitations.

ARTICLE 6 - SITE AND OTHER AREAS

6.01 The Site is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor.

ARTICLE 7 - INTERPRETATIONS AND ADDENDA

7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Engineer as having received the Bidding Documents. Questions received less than five days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

7.02 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Owner or Engineer.

ARTICLE 8 - BID SECURITY

8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of 10 percent of Bidder's maximum Bid price and in the form of a certified check or bank money order or a Bid bond (EJCDC No. C-430, 2007 Edition) issued by a surety meeting the requirements of Paragraphs 5.01 and 5.02 of the General Conditions.

8.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, Owner may annul the Notice of Award and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Agreement or 90 days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.

8.03 Bid security of other Bidders whom Owner believes do not have a reasonable chance of receiving the award will be returned within seven days after the Bid opening.

ARTICLE 9 - CONTRACT TIMES

9.01 The number of days within which, or the dates by which, the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

ARTICLE 10 - LIQUIDATED DAMAGES

10.01 Provisions for liquidated damages are set forth in the Agreement.

ARTICLE 11 - SUBSTITUTE AND “OR-EQUAL” ITEMS

11.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents, or “or-equal” materials and equipment as described in paragraph 6 of the General Conditions, or those substitute materials and equipment approved by Engineer and identified by Addendum. The materials and equipment described in the Bidding Documents establish a standard of required type, function and quality to be met by any proposed substitute or “or-equal” item. Request for Engineer’s clarification of materials and equipment considered “or-equal” prior to the Effective Date of Agreement must be received by the Engineer at least 10 days prior to the date for receipt of Bids. No item of material or equipment will be considered by Engineer as a substitute unless written request for approval has been submitted by Bidder and has been received by Engineer at least 15 days prior to the date for receipt of Bids. Each such request shall conform to the requirements of Paragraph 6.05 of the General Conditions. The burden of proof of the merit of the proposed item is upon Bidder. Engineer’s decision of approval or disapproval of a proposed item will be final. If Engineer approves any proposed substitute item, such approval will be set forth in an Addendum issued to all prospective Bidders. Bidders shall not rely upon approvals made in any other manner.

ARTICLE 12 - SUBCONTRACTORS, SUPPLIERS, AND OTHERS

12.01 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, individuals, or entities to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity if requested by Owner. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute, without an increase in the Bid.

12.02 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest responsible Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 6.06 of the General Conditions.

12.03 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.

ARTICLE 13 - PREPARATION OF BID

13.01 The Bid Form is included with the Bidding Documents. Additional copies may be obtained from Engineer.

13.02 All blanks on the Bid Form shall be completed in ink and the Bid signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each section, Bid Item, alternative, adjustment unit price item, and unit price item] listed therein, or the words “No Bid,” “No Change,” or “Not Applicable” entered.

13.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be provided on the Bid Form.

13.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be provided on the Bid Form.

13.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.

13.06 A Bid by an individual shall show the Bidder's name and business address.

13.07 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture must be provided on the Bid Form.

13.08 All names shall be printed in ink below the signatures.

13.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers and dates of which shall be filled in on the Bid Form.

13.10 The postal and email addresses and telephone number for communications regarding the Bid shall be shown.

13.11 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state or locality where the Project is located or Bidder shall covenant in writing to obtain such qualification prior to award of the Contract and attach such covenant to the Bid Form. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.

ARTICLE 14 - BASIS OF BID; COMPARISON OF BIDS

14.01 Unit Price

A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid schedule.

B. The total of all bid prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price. The final quantities and Contract Price will be determined in accordance with Paragraph 11.03 of the General Conditions.

C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

ARTICLE 15 - SUBMITTAL OF BID

15.01 With each copy of the Bidding Documents, a Bidder is furnished one separate unbound copy of the Bid Form, and the Bid bond form. The unbound copy of the Bid Form is to be completed and submitted with all of the attachments outlined in Article 7 of the Bid Form.

15.02 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the Advertisement for Bids and shall be enclosed in an opaque sealed envelope plainly marked with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate envelope plainly marked on the outside with the notation "**BID ENCLOSED.**" When using the mail or other delivery system, the Bidder is totally responsible for the mail or other delivery system delivering the Bid at the place and prior to the time indicated in the Advertisement for Bid. A mailed Bid shall be addressed to Owner at the address in Article 1.01 of the Bid Form.

ARTICLE 16 - MODIFICATION AND WITHDRAWAL OF BID

16.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.

16.02 If within 24 hours after Bids are opened, any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid or negotiated, that Bidder will be disqualified from further bidding on the Work. This provision to withdraw a Bid without forfeiting the Bid security does not apply to Bidder's errors in judgment in preparing the Bid.

ARTICLE 17 - OPENING OF BIDS

17.01 Bids will be opened at the time and place indicated in the Advertisement for Bids and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the Bids and alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 - BIDS TO REMAIN SUBJECT TO ACCEPTANCE

18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, at its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 – EVALUATION OF BIDS AND AWARD OF CONTRACT

19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to be non-responsible. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.

19.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

19.03 In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

19.04 In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.

19.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities to perform the Work in accordance with the Contract Documents.

19.06 If the Contract is to be awarded, Owner will award the Contract to the responsible Bidder whose Bid, conforming with all the material terms and conditions of the Instructions to Bidders, is lowest, price and other factors considered. If detailed in the Bid Form, factors such as discounts, transportation costs, and life cycle costs may be used to determine which bidder, if any, is to be offered the award.

ARTICLE 20 - CONTRACT SECURITY AND INSURANCE

20.01 Article 5 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by such bonds.

ARTICLE 21 - SIGNING OF AGREEMENT

21.01 When Owner gives a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents which are identified in the Agreement as attached thereto. Within 15 days thereafter, Successful Bidder shall sign and deliver the required

number of counterparts of the Agreement and attached documents to Owner. Within ten days thereafter, Owner shall deliver one fully signed counterpart to Successful Bidder with a complete set of the Drawings with appropriate identification.

ARTICLE 22 - SALES AND USE TAXES

22.01 Contractor shall pay all sales, use and other taxes as specified in Paragraph 6 of the General Conditions.

ARTICLE 23- WORKERS' COMPENSATION REQUIREMENTS

23.01 As required by Section 1860 of the California Labor Code and in accordance with the provisions of Section 3700 of the Labor Code, every Contractor will be required to secure the payment of workers' compensation to its employees.

23.02 In accordance with Section 1861 of the California Labor Code, the Contractor shall furnish the Owner with a statement as follows: "I am aware of the provisions of 3700 of the Labor Code which requires every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract."

ARTICLE 24 – SUBCONTRACTOR LISTING LAW

24.01 In accordance with Section 4104 of the California Public Contract Code, each Bidder, in his or her Bid, shall set forth the name and the location of the place of business of 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 plans and specifications, in an amount in excess of one-half of one percent of the prime contractor's total bid.

24.02 In accordance with Section 4107 of the California Public Contract Code, no Contractor whose Bid is accepted shall without consent of the Owner either: (a) substitute a person as a Subcontractor in place of the Subcontractor listed in the original Bid; or (b) permit a subcontract to be voluntarily assigned or transferred or allow it to be performed by anyone other than the original Subcontractor listed in the original Bid; or (c) sublet or subcontract any portion of the Work in excess of one-half of one percent of the prime Contractor's total Bid as to which his or her original Bid did not designate a Subcontractor.

24.03 Penalties for failure to comply with the foregoing sections of the California Public Contract Code are set forth in Sections 4106, 4110, and 4111 of the Public Contract Code. A prime contractor violating this law violates his or her contract and the awarding authority may exercise the option, in its own discretion, of (1) canceling his or her contract or (2) assessing the prime contractor a penalty in an amount of not more than 10 percent of the amount of the subcontract involved, and this penalty shall be deposited in the fund out of which the prime contract is awarded. In any proceedings under this section the prime contractor shall be entitled to a public hearing and to five days' notice of the time and place thereof.

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WAGE REQUIREMENTS

Notice is hereby given that, pursuant to 1773 of the Labor Code of the State of California, the Owner has obtained from the Director of the Department of Industrial Relations the general prevailing rate of per diem wages and the general prevailing rate for holidays and overtime work for each craft, classification, or type of worker required to execute the Contract. A copy of said prevailing rate of per diem wages is on file in the principal office of the Owner, to which reference is hereby made for further particulars. Said prevailing rate of per diem wages will be made available to any interested party upon request, and a copy thereof shall be posted at each job site.

Statutory Penalty for Failure to Pay Minimum Wages: In accordance with 1775 of the California Labor Code, the Contractor shall as a penalty to the State of political subdivision on whose behalf a Contract is made or awarded, forfeit fifty dollars (\$50.00) for each calendar day or portion thereof, for each worker paid less than the stipulated prevailing rate for any public work done under the Contract by the Contractor or by any Subcontractor under the Contractor.

Statutory Penalty for Unauthorized Overtime Work: In accordance with 1813 of the California Labor Code, the Contractor shall as a penalty to the State or political subdivision on whose behalf the Contract is made or awarded, forfeit twenty-five dollars (\$25.00) for each worker employed in the execution of the Contract by the Contractor or by any Subcontractor for each calendar day during which said worker is required or permitted to work more than eight hours in any one calendar day and forty hours in any one calendar week in violation of 1810-1815 of the California Labor Code.

Apprenticeship Requirements: Contractor agrees to comply with 1777.5, 1777.6 and 1777.7 of the California Labor Code relating to the employment of apprentices. The responsibility for compliance with these provisions is fixed with the prime contractor for all apprenticeship occupations. Under these sections of the law, Contractors and Subcontractors must employ apprentices in apprenticeship occupations, where journeymen in the craft are employed on the public work, in a ratio of not less than one apprentice hour for each five journeymen hours (unless an exemption is granted in accordance with 1777.5) and Contractors and Subcontractors shall not discriminate among otherwise qualified employees as indentured apprentices on any public work solely on the ground of race, religious creed, color, national origin, ancestry, sex, or age, except as provided in 3077 of the Labor Code. Only apprentices, as defined in 3077, which provides that an apprentice must be at least 16 years of age, who are in training under apprenticeship standards and who have signed written apprentice agreements will be employed on public works in apprenticeship occupations.

Payroll Records: Contractor shall keep accurate payroll records on forms provided by the Division of Labor Standards Enforcement, or alternatively, the Contractor shall keep accurate payroll records containing the same information. Said information shall include, but not be limited to, a record of the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and actual per diem wages paid to each journeyman, apprentice, or worker employed by the Contractor. Such record shall be made available for inspection at all reasonable hours, and a copy shall be made available to employee or his authorized representative, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards in compliance with California Labor Code, Section 1776. Upon written notice from the Owner or the Division of Labor Standards Enforcement, the Contractor shall, within ten (10) days, file with the Owner a certified copy of the payroll records. The Contractor shall cause an identical clause to be included in every subcontract for the Work.

BID FORM

**Glen Arbor Bridge Pipeline Replacement Project
San Lorenzo Valley Water District**

ARTICLE 1- BID RECIPIENT

1.01 This Bid is submitted to:

**San Lorenzo Valley Water District
13060 Highway 9
Boulder Creek, CA 95006-9119**

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2- BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3- BIDDER'S REPRESENTATIONS

In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged.

Addendum No.	Addendum Date

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and is satisfied as to all Federal, State and local Laws and Regulations that may affect cost, progress and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified.

E. Bidder has considered the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs.

**SAN LORENZO VALLEY WATER DISTRICT
Glen Arbor Bridge Pipeline Replacement Project
Bid Form**

F. Based on the information and observations referred to in Paragraph 3.01.E above, Bidder does not consider that any further examinations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of the Work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.

I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

J. Bidder will submit written evidence of its authority to do business in the State or other jurisdiction where the Project is located not later than the date of its execution of the Agreement.

ARTICLE 4- BIDDER'S CERTIFICATION

4.01 Bidder further represents that:

A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation;

B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.
2. "fraudulent practice" means an intentional misrepresentation of facts made to (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5- BASIS OF BID

6.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

SAN LORENZO VALLEY WATER DISTRICT
Glen Arbor Bridge Pipeline Replacement Project
Bid Form

<u>Item #</u>	<u>Description</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Total Cost</u>
1	Mobilization and Traffic Control	1	ls.		
2	Tap Existing Pipelines	2	ea.		
3	Buried 8 Inch Pipe	110	lf.		
4	Bridge Supported 8 Inch Pipe	260	lf.		
Construction Total					\$ -

GENERAL

The various items to be included in each bid item shall be as set forth in these Specifications.

Irrespective of whether a specific item of work shown on the drawings or specified or is mentioned in the bid items, all work required shall be included in the Total Bid Price of the Contract.

Bid Item No. 1 – Mobilization and Traffic Control Mobilization and Traffic Control shall be in accordance with Section 2, "Proposal Requirements and Conditions" of the State Standard Specification and the notes and details shown on the drawings. Payment shall be lump sum complete.

Bid Item No. 2 - Tap Existing Pipeline Tap Existing pipeline shall include excavation, tapping saddle, tapping valve, materials, fittings, trench plating, backfill, pavement restoration, testing, disinfection, pavement repair and all labor, equipment and transportation necessary to complete tapping existing pipelines. Payment shall be per each complete in place.

Bid Item No. 3 - Buried 8-inch Pipe Buried 8-inch Pipe shall include furnishing and installation of 8 inch diameter ductile iron pipe with restrained mechanical joint, wall sleeving, and gate valves, including excavation, and off haul of unsuitable material (if any), driveway restoration, base rock trench cap, concrete cap, gaskets, thrust blocks, materials, fittings, poly wrap, temporary blow-offs, pipe laying, backfill, testing, disinfection, pavement repair, and all labor, equipment and transportation necessary to complete the project. Payment shall be per lineal foot of 8-inch diameter buried ductile iron pipe complete in place.

Bid Item No. 4 - Bridge Supported 8-inch Pipe Bridge Supported 8-inch Pipe shall include furnishing and installation of 8-inch diameter restrained mechanical joint ductile iron pipe and appurtenances on Glen Arbor Road Bridge including all materials, pipe, fittings, valves, support brackets, flexible connections, pipe laying, scaffolding, testing, disinfection, and all labor, equipment and transportation necessary to complete the project. Payment shall be per lineal foot of 8-inch diameter bridge supported ductile iron pipe complete in place.

Unit Prices have been computed in accordance with Paragraph 11 of the General Conditions.

Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities, determined as provided in the Contract Documents

ARTICLE 6- TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 14 of the General Conditions and within the 180 calendar days indicated in the Agreement.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damage.

ARTICLE 7 - ATTACHMENTS TO THIS BID

7.01 The following documents are attached to and made a condition of this Bid:

- A. Required Bid security or Certified Check;
- B. Workers Compensation Certification;

SAN LORENZO VALLEY WATER DISTRICT
Glen Arbor Bridge Pipeline Replacement Project
Bid Form

C. List of Subcontractors

ARTICLE 8 - DEFINED TERMS

8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 - BID SUBMITTAL

9.01 This Bid is submitted by:

Bidder's Business address: _____

Phone: _____ Facsimile: _____

Submitted on _____, 20____.

State Contractor License No. _____

Employer's Tax ID No. _____

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____
(*Individual's signature*)

Doing business as: _____

A Partnership

Partnership _____ Name: _____

(SEAL)

By: _____
(*Signature of general partner – attach evidence of authority to sign*)

Name (typed or printed): _____

A Corporation

Corporation _____ Name: _____

(SEAL)

State of Incorporation: _____

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

SAN LORENZO VALLEY WATER DISTRICT
Glen Arbor Bridge Pipeline Replacement Project
Bid Form

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

Name (typed or printed): _____

Title: _____

Attest: _____
(Signature of Corporate Secretary)

Date of Qualification to do business in California is ____ \ ____ \ ____.

A Joint Venture

Name of Joint Venturer: _____

First	Joint	Venturer	Name:
_____			_____ (SEAL)

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

Name (typed or printed): _____

Title: _____

Second	Joint	Venturer	Name:
_____			_____ (SEAL)

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

Name (typed or printed): _____

Title: _____

(Each joint venturer 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.)

**SAN LORENZO VALLEY WATER DISTRICT
Glen Arbor Bridge Pipeline Replacement Project
Certification for Workers Compensation Insurance**

BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER (Name and Address):			
SURETY (Name and Address of Principal Place of Business):			
OWNER (Name and Address):			
BID			
Bid Due Date:			
Description (Project Name and Include Location):			
BOND			
Bond Number:			
Date (Not earlier than Bid due date):			
Penal sum			\$
		(Words)	(Figures)
Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.			
BIDDER		SURETY	
(Seal)		(Seal)	
Bidder's Name and Corporate Seal		Surety's Name and Corporate Seal	
By:		By:	
Signature		Signature (Attach Power of Attorney)	
Print Name		Print Name	
Title		Title	
Attest:		Attest:	
Signature		Signature	
Title		Title	
Note: Above addresses are to be used for giving any required notice. Provide execution by any additional parties, such as joint venturers, if necessary.			

- 1) Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.
- 2) Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.

**SAN LORENZO VALLEY WATER DISTRICT
Glen Arbor Bridge Pipeline Replacement Project
Certification for Workers Compensation Insurance**

- 3) This obligation shall be null and void if:
 - a) Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - b) All Bids are rejected by Owner, or
 - c) Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
- 4) Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
- 5) Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.
- 6) No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after Bid due date.
- 7) Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
- 8) Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
- 9) Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
- 10) This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
- 11) The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

**SAN LORENZO VALLEY WATER DISTRICT
Glen Arbor Bridge Pipeline Replacement Project
Certification for Workers Compensation Insurance**

CONTRACTOR'S CERTIFICATION REGARDING WORKERS' COMPENSATION INSURANCE

State of California

County of _____

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this Contract.

(Name of Contractor)

by: _____

(Signature of Contractor)

Date: _____

SAN LORENZO VALLEY WATER DISTRICT
Glen Arbor Bridge Pipeline Replacement Project
List of Subcontractors

LIST OF SUBCONTRACTORS

Work to be Performed	Percent of Total Contract	Subcontractor's Name and Address
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		

(ATTACH ADDITIONAL NUMBERED PAGES IF NEEDED)

AGREEMENT

THIS AGREEMENT is by and between _____ (“Owner”) and
_____ (“Contractor”).

Owner and Contractor hereby agree as follows:

Work

Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

- a. Hot tapping and connections to existing 6” pipelines in Highway 9 and Glen Arbor Road.
- b. Installing buried 8-inch pipelines, suspended 8-inch pipeline and appurtenances to an existing bridge structure.
- c. Attaching braces and supports for 8-inch ductile iron pipe to existing bridge.
- d. Pavement replacement as needed.
- e. Disinfection and pressure testing of the new piping.
- f. Other work as shown on the drawings.

The Project

The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

**Glen Arbor Bridge Pipeline Replacement Project
San Lorenzo Valley Water District
San Lorenzo Valley, California**

Engineer

The Project has been designed by **Freitas + Freitas Engineering and Planning Consultants, Inc.** (Engineer), which is to act as Owner’s representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

Contract Times

Time of the Essence

All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

Days to Achieve Substantial Completion and Final Payment

The Work will be substantially completed within **180 calendar days** after the date when the Contract Times commence to run as provided in the General Conditions, and completed and ready for final payment in accordance with the General Conditions within **210 calendar days** after the date when the Contract Times commence to run.

Liquidated Damages

Contractor and Owner recognize that time is of the essence as stated above and that Owner will suffer financial loss if the Work is not completed within the times specified above, plus any extensions thereof allowed in accordance with the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay Owner **\$1,000.00** for each day that expires after the time specified above for Substantial Completion until the Work is substantially complete. After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time

or any proper extension thereof granted by Owner, Contractor shall pay Owner **\$1,000.00** for each day that expires after the time specified above for completion and readiness for final payment until the Work is completed and ready for final payment.

Contract Price

Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant below:

The Bid prices for Unit Price Work set forth as of the Effective Date of the Agreement are based on estimated quantities. As provided in Paragraph 11.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer as provided in Paragraph 9.07 of the General Conditions.

For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.

Payment Procedures

Submittal and Processing of Payments

Contractor shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

Progress Payments; Retainage

Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the 25th day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below. All such payments will be measured by the schedule of values established as provided in Paragraph 2.07.A of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements.

Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Engineer may determine or Owner may withhold, including but not limited to liquidated damages, in accordance with Paragraph 14.02 of the General Conditions.

95 percent of Work completed (with the balance being retainage). If the Work has been 50 percent completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and 95 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).

Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 100 percent of the Work completed, less such amounts as Engineer shall determine in accordance with Paragraph 14.02.B.5 of the General Conditions and less 200 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the tentative list of items to be completed or corrected attached to the certificate of Substantial Completion.

Final Payment

Upon final completion and acceptance of the Work in accordance with Paragraph 14.07 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 14.07.

Interest

All moneys not paid when due as provided in Article 14 of the General Conditions shall bear interest at the rate of 1 percent per annum.

Contractor's Representations

In order to induce Owner to enter into this Agreement, Contractor makes the following representations:

- A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.
- B. Contractor has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities), if any, that have been identified in Paragraph SC-4.02 of the Supplementary Conditions as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in Paragraph SC-4.06 of the Supplementary Conditions as containing reliable "technical data."
- E. Contractor has considered the information known to Contractor; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents; and (3) Contractor's safety precautions and programs.
- F. Based on the information and observations referred to in Paragraph 8.01.E above, Contractor does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.
- G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
- H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- J.

Contract Documents

Contents

The Contract Documents consist of the following:

- 1. This Agreement (pages 26 to 32, inclusive).
- 2. Performance bond (pages 35 to 38, inclusive).
- 3. Payment bond (pages 39 to 42, inclusive).
- 4. General Conditions (pages 43 to 91, inclusive).
- 5. Supplementary Conditions (pages 92 to 94, inclusive).

6. Specifications as listed in the table of contents of the Project Manual.
7. Drawings consisting of 5 sheets listed on the sheet index.
8. Addenda.
9. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid (pages 17 to 21, inclusive).
 - b. Documentation submitted by Contractor prior to Notice of Award.
10. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
 - a. Notice to Proceed (page 34).
 - b. Work Change Directives.
 - c. Change Orders.

The documents listed above are attached to this Agreement (except as expressly noted otherwise above).

There are no Contract Documents other than those listed above.

The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

Miscellaneous

Terms

Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

Assignment of Contract

No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; 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 assignor from any duty or responsibility under the Contract Documents.

Successors and Assigns

Owner and Contractor each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

Severability

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 Owner and 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.

Contractor's Certifications

Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;
2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid

or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

**SAN LORENZO VALLEY WATER DISTRICT
Glen Arbor Bridge Pipeline Replacement Project
Agreement**

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement. Counterparts have been delivered to Owner and Contractor. All portions of the Contract Documents have been signed or have been identified by Owner and Contractor or on their behalf.

This Agreement will be effective on _____ (which is the Effective Date of the Agreement).

OWNER:

CONTRACTOR

By: _____

By: _____

Title: _____

Title: _____

(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: _____

Attest: _____

Title: _____

Title: _____

Address for giving notices:

Address for giving notices:

License No.: _____

(Where applicable)

(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)

Agent for service of process:

ATTACHMENT TO AGREEMENT

BETWEEN OWNER AND CONTRACTOR

FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)

This attachment is to the Agreement made and entered into on **{Insert Date of Contract}**, by and between the **{Insert Name of Owner}** hereinafter "Owner", and **{Insert Name of Contractor}** hereinafter called "Contractor." This Contract is for that Work described in the Contract Documents entitled **Glen Arbor Bridge Pipeline Replacement Project**.

This Contract shall not be effective unless and until approved by a delegated representative of USDA Rural Development.

CERTIFICATE OF OWNER'S ATTORNEY

I, the undersigned, _____ the duly authorized and acting legal representative of _____, do hereby certify as follows:

I have examined the attached Contract(s) and performance and payment bond(s) and the manner of execution thereof, and I am of the opinion that each of the aforesaid agreements has been duly executed by the proper parties thereto acting through their duly authorized representatives; that said representatives have full power and authority to execute said agreements on behalf of the respective parties named thereon; and that the foregoing agreements constitute valid and legally binding obligations upon the parties executing the same in accordance with terms, conditions, and provisions thereof. I also am of the opinion that the Contractor's insurance coverage(s) complies with the requirements of the Contract.

(Attorney's Signature)

DATE: _____

AGENCY CONCURRENCE

As lender or insurer of funds to defray the costs of this Contract, and without liability for any payments thereunder, the Agency hereby concurs in the form, content, and execution of this Agreement.

BY: _____ DATE: _____

TITLE: _____

**SAN LORENZO VALLEY WATER DISTRICT
Glen Arbor Bridge Pipeline Replacement Project
Notice of Award**

Notice of Award

Date: _____

Project: Glen Arbor Bridge Pipeline Replacement Project San Lorenzo Valley Water District

Owner: San Lorenzo Valley Water District P.O. Box 388, San Lorenzo Valley, CA 95004	Owner's Contract No.: NA
-------------------------------------------------------------------------------------	--------------------------

Contract: Same as Project	Engineer's Project No.:
---------------------------	-------------------------

Bidder: _____

Bidder's Address: _____

You are notified that your Bid dated _____ for the above Contract has been considered. You are the Successful Bidder and are awarded a Contract for this project.

The Contract Price of your Contract is

One copy of the proposed Contract Documents (except Drawings) accompany this Notice of Award.

Drawings will be delivered separately or otherwise made available to you immediately.

You must comply with the following conditions precedent within fifteen [15] days of the date you receive this Notice of Award.

1. Deliver to the Owner the following:
 - A. two fully executed Agreement (page 33 of documents)**
 - B. two fully executed Attachment to Agreement (page 39 of documents)**
 - C. Performance Bond (page 42 of documents)**
 - D. Payment Bond (page 46 of documents)**
 - E. Certificates of Insurance as Required Article 5 (page 64 of the documents)**

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within ten days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Contract Documents.

Owner

By: _____
Authorized Signature

Title

Copy to Engineer

SAN LORENZO VALLEY WATER DISTRICT
Glen Arbor Bridge Pipeline Replacement Project
Notice to Proceed

NOTICE TO PROCEED

Date: _____

Project: _____

Owner: _____

Owner's Contract No.: _____

Contract: _____

Engineer's Project No.: _____

Contractor: _____

Contractor's Address: *[send Certified Mail, Return Receipt Requested]*

You are notified that the Contract Times under the above Contract will commence to run on _____. On or before that date, you are to start performing your obligations under the Contract Documents. In accordance with Article 4 of the Agreement, the date of Substantial Completion is _____, and the date of readiness for final payment is _____ [(or) the number of days to achieve Substantial Completion is _____, and the number of days to achieve readiness for final payment is _____].

Before you may start any Work at the Site, Paragraph 2.01.B of the General Conditions provides that you and Owner must each deliver to the other (with copies to Engineer and other identified additional insureds and loss payees) certificates of insurance which each is required to purchase and maintain in accordance with the Contract Documents.

Owner

Given by: _____

Authorized Signature

Title

Date

Copy to Engineer

**SAN LORENZO VALLEY WATER DISTRICT
Glen Arbor Bridge Pipeline Replacement Project
Performance Bond**

PERFORMANCE BOND

CONTRACTOR *(name and address):*

SURETY *(name and address of principal place of business):*

OWNER *(name and address):*

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location):*

BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract):*

Amount:

Modifications to this Bond Form: ☐ ne S ☐ Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal *(seal)*

Surety's Name and Corporate Seal *(seal)*

By: _____
Signature

By: _____
Signature *(attach power of attorney)*

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:

3.1 The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

3.2 The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

3.3 The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:

7.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

7.2 additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and

7.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.

9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.

10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted here from and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

14. Definitions

14.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the

**SAN LORENZO VALLEY WATER DISTRICT
Glen Arbor Bridge Pipeline Replacement Project
Performance Bond**

Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

14.2 Construction Contract: The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

14.3 Contractor Default: Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

14.4 Owner Default: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

14.5 Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.

15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

PAYMENT BOND

CONTRACTOR *(name and address):*

SURETY *(name and address of principal place of business):*

OWNER *(name and address):*

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location):*

BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract):*

Amount:

Modifications to this Bond Form: ☐ None ☐ See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal

Surety's Name and Corporate Seal

By: _____

By: _____

Signature

Signature *(attach power of attorney)*

Print Name

Print Name

Title

Title

Attest: _____

Attest: _____

Signature

Signature

Title

Title

**SANLORENZO VALLEY WATER DISTRICT
Glen Arbor Bridge Pipeline Replacement Project
Payment Bond**

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond shall arise after the following:
 - 5.1 Claimants who do not have a direct contract with the Contractor,
 - 5.1.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
 - 5.1.2 have sent a Claim to the Surety (at the address described in Paragraph 13).
 - 5.2 Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
 - 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
 - 7.2 Pay or arrange for payment of any undisputed amounts.
 - 7.3 The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.
8. The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond shall be credited for any payments made in good faith by

the Surety.

9. Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.
14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

16. Definitions

16.1 **Claim:** A written statement by the Claimant including at a minimum:

1. The name of the Claimant;
2. The name of the person for whom the labor was done, or materials or equipment furnished;
3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
4. A brief description of the labor, materials, or equipment furnished;
5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
7. The total amount of previous payments received by the Claimant; and
8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.

16.2 **Claimant:** An individual or entity having a direct contract with the Contractor or with a subcontractor of the

SANLORENZO VALLEY WATER DISTRICT
Glen Arbor Bridge Pipeline Replacement Project
Payment Bond

Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

- 16.3 **Construction Contract:** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.
- 16.4 **Owner Default:** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
- 16.5 **Contract Documents:** All the documents that comprise the agreement between the Owner and Contractor.
- 17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.
- 18. Modifications to this Bond are as follows:

**SAN LORENZO VALLEY WATER DISTRICT
Glen Arbor Bridge Pipeline Replacement Project
Certificate of Substantial Completion**

CERTIFICATE OF SUBSTANTIAL COMPLETION

Project:

Owner:

Owner's Contract No.:

Contract:

Engineer's Project No.:

This [tentative] [definitive] Certificate of Substantial Completion applies to:

☐ All Work under the Contract Documents:

☐ The following specified portions of the Work:

Date of Substantial Completion

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor, and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Project or portion thereof designated above is hereby declared and is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below.

A [tentative] [definitive] list of items to be completed or corrected is attached hereto. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance and warranties shall be as provided in the Contract Documents except as amended as follows:

☐ Amended Responsibilities

☐ Not Amended

Owner's Amended Responsibilities:

Contractor's Amended Responsibilities:

The following documents are attached to and made part of this Certificate:

**SAN LORENZO VALLEY WATER DISTRICT
Glen Arbor Bridge Pipeline Replacement Project
Certificate of Substantial Completion**

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract Documents.

_____ Executed by Engineer	_____ Date
-------------------------------	---------------

_____ Accepted by Contractor	_____ Date
---------------------------------	---------------

_____ Accepted by Owner	_____ Date
----------------------------	---------------

GENERAL CONDITIONS

ARTICLE 1- Definitions and Terminology

Defined Terms

Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
1. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.
2. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
3. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
4. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
5. *Bidder*—The individual or entity who submits a Bid directly to Owner.
6. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
8. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.
9. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
10. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.
11. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.
12. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).

SAN LORENZO VALLEY WATER DISTRICT
Glen Arbor Bridge Pipeline Replacement Project
General Conditions

13. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.
14. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.
15. *Cost of the Work*—See Paragraph 11.01 for definition.
16. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
17. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
18. *Engineer*—The individual or entity named as such in the Agreement.
19. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
20. *General Requirements*—Sections of Division 1 of the Specifications.
21. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
22. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
24. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
25. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.
26. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
27. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.
28. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
29. *PCBs*—Polychlorinated biphenyls.

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30. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
31. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
32. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
33. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
34. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
35. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.
36. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
37. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
38. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
39. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
40. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
41. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
42. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.
43. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially

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complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.

44. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.
45. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
46. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.
47. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
48. *Unit Price Work*—Work to be paid for on the basis of unit prices.
49. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
50. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

Terminology

The words and terms discussed below are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

Intent of Certain Terms or Adjectives:

The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

Day:

The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.

Defective:

The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:

- a. does not conform to the Contract Documents; or
- b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
- c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion.

Furnish, Install, Perform, Provide:

The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, “provide” is implied.

Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2- Preliminary Matters

Delivery of Bonds and Evidence of Insurance

When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

Evidence of Insurance: Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

Copies of Documents

Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

Commencement of Contract Times; Notice to Proceed

The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

Starting the Work

Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work

shall be done at the Site prior to the date on which the Contract Times commence to run.

Before Starting Construction

Preliminary Schedules: Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:

- A. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;
- B. a preliminary Schedule of Submittals; and
- C. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

Preconstruction Conference; Designation of Authorized Representatives

Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

Initial Acceptance of Schedules

At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 - Contract Documents: Intent, Amending, Reuse

Intent

The Contract Documents are complementary; what is required by one is as binding as if required by all.

It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.

Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

Reference Standards

Standards, Specifications, Codes, Laws, and Regulations:

Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

Reporting and Resolving Discrepancies

1) Reporting Discrepancies:

a) Contractor's Review of Contract Documents Before Starting Work:

- i) Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.

ii) Contractor's Review of Contract Documents During Performance of Work:

If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

- 2) Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

3) Resolving Discrepancies:

- 4) Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
 - 5) the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or
 - 6) the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

Amending and Supplementing Contract Documents

The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.

The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

- a. A Field Order;
- b. Engineer's approval of a Shop Drawing or Sample.
- c. Engineer's written interpretation or clarification.

Reuse of Documents

Contractor and any Subcontractor or Supplier shall not:

- a. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or
- b. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.
- c. The prohibitions will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

Electronic Data

Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.

When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4- Availability of Lands; Subsurface and Physical Conditions; Hazardous Environmental Conditions; Reference Points

Availability of Lands

Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided.

Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

Subsurface and Physical Conditions

Reports and Drawings: The Supplementary Conditions identify:

- A. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
- B. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

Limited Reliance by Contractor on Technical Data Authorized: Contractor may rely upon the accuracy of the “technical data” contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such “technical data” is identified in the Supplementary Conditions. Except for such reliance on such “technical data,” Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

- A. the completeness of such reports and drawings for Contractor’s purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
- B. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
- C. any Contractor interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions, or information.

Differing Subsurface or Physical Conditions

Notice: If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

- A. is of such a nature as to establish that any “technical data” on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
- B. is of such a nature as to require a change in the Contract Documents; or
- C. differs materially from that shown or indicated in the Contract Documents; or
- D. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

Engineer’s Review: After receipt of written notice as required, Engineer will promptly review the pertinent condition, determine the necessity of Owner’s obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer’s findings and conclusions.

Possible Price and Times Adjustments:

The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor’s cost of, or time required for, performance of the Work; subject, however, to the following:

- A. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and

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- B. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.

Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:

- a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or
- b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or
- c. Contractor failed to give the written notice.

If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

Underground Facilities

Shown or Indicated: The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

- A. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and
- B. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all such information and data;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents;
 - c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and
 - d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

e.

Not Shown or Indicated:

If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor.

Reference Points

Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

Hazardous Environmental Condition at Site

Reports and Drawings: The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.

No reports or explorations or tests of Hazardous Environmental Conditions at or contiguous to the Site are known to the Owner or Engineer.

Limited Reliance by Contractor on Technical Data Authorized: Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

- A. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
- B. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
- C. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

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Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.

If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.

Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.

If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

The provisions do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5- Bonds and Insurance

Performance, Payment, and Other Bonds

Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.

If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements.

Licensed Sureties and Insurers

All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

Certificates of Insurance

Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.

The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

Contractor's Insurance

Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of

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them to perform any of the Work, or by anyone for whose acts any of them may be liable:

- A. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
- B. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
- C. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
- D. claims for damages insured by reasonably available personal injury liability coverage which are sustained:
 - 1. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - 2. by any other person for any other reason;
- E. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
- F. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

The policies of insurance required by this paragraph shall:

- A. with respect to insurance required, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;
- B. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
- C. include contractual liability insurance covering Contractor's indemnity obligations;
- D. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days' prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor 03 will so provide);
- E. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work; and
- F. include completed operations coverage:
 - a. Such insurance shall remain in effect for two years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

Owner's Liability Insurance

In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

Property Insurance

Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

- A. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;
- B. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.
- C. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);
- D. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;
- E. allow for partial utilization of the Work by Owner;
- F. include testing and startup; and
- G. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days' written notice to each other loss payee to whom a certificate of insurance has been issued.

Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.

All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days' prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions.

Owner shall not be responsible for purchasing and maintaining any property insurance to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by

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Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

Waiver of Rights

Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:

- A. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
- B. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization, after Substantial Completion, or after final payment.

Any insurance policy maintained by Owner covering any loss, damage or consequential loss shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

Receipt and Application of Insurance Proceeds

Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.

Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

Acceptance of Bonds and Insurance; Option to Replace

If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested). Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

Partial Utilization, Acknowledgment of Property Insurer

If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 - Contractor's Responsibilities

Supervision and Superintendence

Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.

At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

Labor; Working Hours

Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

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Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

Services, Materials, and Equipment

Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

Progress Schedule

Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.

- A. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
- B. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

Substitutes and "Or-Equals"

Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

"Or-Equal" Items: If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. A proposed item of material or equipment will be considered functionally equal to an item so named if:

- 1) in the exercise of reasonable judgment Engineer determines that:
 - a) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

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- b) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and
- c) it has a proven record of performance and availability of responsive service.

Contractor certifies that, if approved and incorporated into the Work:

- 1) there will be no increase in cost to the Owner or increase in Contract Times; and
- 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

Substitute Items:

- 1) If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, it will be considered a proposed substitute item.
- 2) Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.
- 3) The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.
- 4) Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application shall certify that the proposed substitute item will:
 - a) perform adequately the functions and achieve the results called for by the general design,
 - b) be similar in substance to that specified, and
 - c) be suited to the same use as that specified;
 - d) will state:
 - i) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
 - ii) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
 - iii) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;
 - iv) will identify:
 - (1) all variations of the proposed substitute item from that specified, and
 - (2) available engineering, sales, maintenance, repair, and replacement services; and
 - (3) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.

Substitute Construction Methods or Procedures: If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided.

Engineer's Evaluation: Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.

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Special Guarantee: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

Engineer's Cost Reimbursement: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

Contractor's Expense: Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

Concerning Subcontractors, Suppliers, and Others

Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:

- (1) shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor
- (2) shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.

Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.

The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

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All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

Patent Fees and Royalties

Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

Permits

Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

Laws and Regulations

Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations,

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Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations.

Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor.

Taxes

Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

Use of Site and Other Areas

Limitation on Use of Site and Other Areas:

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.
2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

Removal of Debris During Performance of the Work: During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

Cleaning: Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

Loading Structures: Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

Record Documents

Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

Safety and Protection

Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;
2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.

Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

All damage, injury, or loss to any property caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

Safety Representative

Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

Hazard Communication Programs

Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard

communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

Emergencies

In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

Shop Drawings and Samples

Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.

1. Shop Drawings:
 - a. Submit number of copies specified in the General Requirements.
 - b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required.
2. Samples:
 - a. Submit number of Samples specified in the Specifications.
 - b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required.

Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

Submittal Procedures:

Before submitting each Shop Drawing or Sample, Contractor shall have:

1. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
2. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
3. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
4. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.

With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such

variation.

Engineer's Review:

Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements.

Resubmittal Procedures:

Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

Continuing the Work

Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements or as Owner and Contractor may otherwise agree in writing.

Contractor's General Warranty and Guarantee

Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.

Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
2. normal wear and tear under normal usage.

Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;
2. recommendation by Engineer or payment by Owner of any progress or final payment;
3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
4. use or occupancy of the Work or any part thereof by Owner;
5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
6. any inspection, test, or approval by others; or
7. any correction of defective Work by Owner.

Indemnification

To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .

In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

Delegation of Professional Design Services

Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.

If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated.

Contractor shall not be responsible for the adequacy of the performance or design criteria required by the

Contract Documents.

ARTICLE 7- Other Work at the Site

Related Work at Site

Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to Contractor prior to starting any such other work; and
2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.

Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

Coordination

If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
2. the specific matters to be covered by such authority and responsibility will be itemized; and
3. the extent of such authority and responsibilities will be provided.

Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

Legal Relationships

These requirements are not applicable for utilities not under the control of Owner.

Each other direct contract of Owner shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.

Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

ARTICLE 8- Owner's Responsibilities

Communications to Contractor

Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

Replacement of Engineer

In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

Furnish Data

Owner shall promptly furnish the data required of Owner under the Contract Documents.

Pay When Due

Owner shall make payments to Contractor when they are due as provided.

Lands and Easements; Reports and Tests

Owner's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

Insurance

Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

Change Orders

Owner is obligated to execute Change Orders as indicated.

Inspections, Tests, and Approvals

Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in these documents.

Limitations on Owner's Responsibilities

The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

Undisclosed Hazardous Environmental Condition

Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in these documents

Evidence of Financial Arrangements

Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

Compliance with Safety Program

While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.

ARTICLE 9- Engineer's Status During Construction

Owner's Representative

Engineer will be Owner's representative during the construction period. The duties and responsibilities and the

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limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

Visits to Site

Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

Project Representative

If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

Authorized Variations in Work

Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

Rejecting Defective Work

Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

Shop Drawings, Change Orders and Payments

In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.

In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.

In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.

In connection with Engineer's authority as to Applications for Payment, see Article 14.

Determinations for Unit Price Work

Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Article 10. Unit Price Work designated

Decisions on Requirements of Contract Documents and Acceptability of Work

Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.

Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Article 10. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.

Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.

When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

Limitations on Engineer's Authority and Responsibilities

Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

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

Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.

The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

Compliance with Safety Program

While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Article 6.

ARTICLE 10- Changes in the Work; Claims

Authorized Changes in the Work

Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

Unauthorized Changes in the Work

Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

Execution of Change Orders

Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:

1. changes in the Work which are:
 - a. (i) ordered by Owner pursuant to Paragraph 10.01.A,
 - b. (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or
 - c. (iii) agreed to by the parties;
2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

Notification to Surety

If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

Claims

Engineer's Decision Required: All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.

Notice: Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the

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Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

Engineer's Action: Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:

1. deny the Claim in whole or in part;
2. approve the Claim; or
3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.

In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.

No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11- Cost of the Work; Allowances; Unit Price Work
Cost of the Work

Costs Included: The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:

- (1) Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.
- (2) Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

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- (3) Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.
- (4) Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
- (5) Supplemental costs including the following:
 - f. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - g. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - h. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - i. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - j. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
 - k. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
 - l. The cost of utilities, fuel, and sanitary facilities at the Site.
 - m. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.
 - n. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

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Costs Excluded: The term Cost of the Work shall not include any of the following items:

- (1) Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.
- (2) Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- (3) Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- (4) Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
- (5) Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.

Contractor's Fee: When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

Documentation: Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

Allowances

It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

Cash Allowances:

Contractor agrees that:

- 1) the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
- 2) Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

Contingency Allowance:

- 1) Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- 2) Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

Unit Price Work

Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:

- (1) the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
- (2) there is no corresponding adjustment with respect to any other item of Work; and
- (3) Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12- Change of Contract Price; Change of Contract Times

Change of Contract Price

The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

- (1) where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
- (2) where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
- (3) where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

Contractor's Fee: The Contractor's fee for overhead and profit shall be determined as follows:

- 1) a mutually acceptable fixed fee; or
- 2) if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a) for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b) for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;

- c) where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
- d) no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
- e) the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
- f) when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive

Change of Contract Times

The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

Delays

Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 - Tests and Inspections; Correction, Removal or Acceptance of Defective Work

Notice of Defects

Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

Access to Work

Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

Tests and Inspections

Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

- (1) for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
- (2) that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and
- (3) as otherwise specifically provided in the Contract Documents.

If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.

Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

Uncovering Work

If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.

If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages

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(including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.

If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

Owner May Stop the Work

If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

Correction or Removal of Defective Work

Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

Correction Period

If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

- (1) repair such defective land or areas; or
- (2) correct such defective Work; or
- (3) if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
- (4) satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal

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and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

Acceptance of Defective Work

If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

Owner May Correct Defective Work

If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days' written notice to Contractor, correct, or remedy any such deficiency.

In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's

defective Work.

Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 - Payments to Contractor and Completion

Schedule of Values

The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

Progress Payments

Applications for Payments:

- 1) At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
- 2) Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
- 3) The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

Review of Applications:

Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

- 1) the Work has progressed to the point indicated;
- 2) the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and
- 3) the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

By recommending any such payment Engineer will not thereby be deemed to have represented that:

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- i) inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or
- ii) there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

- a) to supervise, direct, or control the Work, or
- b) for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
- c) for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
- d) to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
- e) to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

- a) the Work is defective, or completed Work has been damaged, requiring correction or replacement;
- b) the Contract Price has been reduced by Change Orders;
- c) Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
- d) Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

Payment Becomes Due:

Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

Reduction in Payment:

Owner may refuse to make payment of the full amount recommended by Engineer because:

- 1) claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
- 2) Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
- 3) there are other items entitling Owner to a set-off against the amount recommended; or

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- 4) Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.

If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.

Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

Contractor's Warranty of Title

Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

Substantial Completion

When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.

Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

Partial Utilization

Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for

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its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

- 1) Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.
- 2) Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
- 3) Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
- 4) No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

Final Inspection

Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

Final Payment

Application for Payment:

After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.

The final Application for Payment shall be accompanied (except as previously delivered) by:

- 1) all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
- 2) consent of the surety, if any, to final payment;
- 3) a list of all Claims against Owner that Contractor believes are unsettled; and
- 4) complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.

In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

Engineer's Review of Application and Acceptance:

If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the

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Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

Payment Becomes Due:

Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

Final Completion Delayed

If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

Waiver of Claims

The making and acceptance of final payment will constitute:

- 1) a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and
- 2) a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 - Suspension of Work and Termination

Owner May Suspend Work

At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

Owner May Terminate for Cause

The occurrence of any one or more of the following events will justify termination for cause:

- 1) Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
- 2) Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
- 3) Contractor's repeated disregard of the authority of Engineer; or
- 4) Contractor's violation in any substantial way of any provisions of the Contract Documents.

If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days' written notice of its intent to terminate the services of Contractor:

- 1) exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);
- 2) incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and
- 3) complete the Work as Owner may deem expedient.

If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.

Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

Owner May Terminate For Convenience

Upon seven days' written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

**SAN LORENZO VALLEY WATER DISTRICT
Glen Arbor Bridge Pipeline Replacement Project
General Conditions**

- 1) completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
- 2) expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
- 3) all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
- 4) reasonable expenses directly attributable to termination.

Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

Contractor May Stop Work or Terminate

If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 - Dispute Resolution

Methods and Procedures

Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

- 1) elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or
- 2) agrees with the other party to submit the Claim to another dispute resolution process; or
- 3) gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.
- 4)

ARTICLE 17 - Miscellaneous

Giving Notice

Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

**SAN LORENZO VALLEY WATER DISTRICT
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- 1) delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or
- 2) delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

Computation of Times

When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

Cumulative Remedies.

The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

Survival of Obligations

All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

Controlling Law

This Contract is to be governed by the law of the state in which the Project is located.

Headings

Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

End of General Conditions

SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (No. C-700, 2007 Edition) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions will have the meanings indicated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings indicated below, which are applicable to both the singular and plural thereof.

Add the following new paragraph immediately after Paragraph 5.:

The limits of liability for insurance required by paragraph 5 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation, and related coverages under paragraphs 5 of the General Conditions:

- | | |
|-------------------------|-------------|
| a. State: | Statutory |
| b. Employer's Liability | \$1,000,000 |

2. Contractor's General Liability under paragraphs 5 of the General Conditions which shall include completed operations and product liability coverages and eliminate the exclusion with respect to property under the care, custody, and control of the Contractor:

- | | |
|--------------------------------------------------------|-------------|
| a. General Aggregate | \$2,000,000 |
| b. Products - Completed Operations Aggregate | \$1,000,000 |
| c. Personal and Advertising Injury | \$1,000,000 |
| d. Each Occurrence (Bodily Injury and Property Damage) | \$1,000,000 |
| e. Excess or Umbrella Liability | |
| 1) General Aggregate | \$2,000,000 |
| 2) Each Occurrence | \$2,000,000 |

3. Automobile Liability under paragraph 5.04.6 of the General Conditions:

- | | |
|--------------------------|-------------|
| a. Combined Single Limit | \$1,000,000 |
|--------------------------|-------------|

4. Property Damage liability insurance will provide Explosion, Collapse and Underground (X, C, U) coverages where applicable.

5. Contractual Liability coverage required by paragraph 5. of the General Conditions shall be provided as part of the General Liability coverage.

6. The Owner and Engineer are to be included as additional insureds.

Amend the paragraph by making two subparagraphs under the title Engineer's Evaluation. The paragraph text is retitled, 6.05.C.2 After Effective Date of Agreement. A new paragraph is added before this paragraph to read as follows:

1. During Bidding. The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents, or "or-equal" materials and equipment as defined in paragraph 6.05 of the General Conditions, or those substitute or materials and equipment approved by the Engineer and identified by Addendum. The materials and equipment described in the Bidding Documents establish a standard of required type, function, and quality to be met by any proposed substitute or "or-equal" item. Request for Engineer's clarification of materials and equipment considered "or-equal" prior to the Effective Date of the Agreement must be received by the Engineer at least 10 days prior to the date for receipt of Bids. No item of material or equipment will be considered by Engineer as a substitute unless written request for approval has been submitted by Bidder and has been received by Engineer at least 15 days prior to the date for receipt of Bids. Each request shall conform to the requirements of paragraph 6.05 of the General Conditions. The burden of proof of the merit of the proposed item is upon the

**SAN LORENZO VALLEY WATER DISTRICT
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Bidder. Engineer's decision of approval or disapproval of a proposed item will be final. If Engineer approves any proposed substitute item, such approval will be set forth in an Addendum issued to all prospective Bidders. Bidders shall not rely upon approvals made in any other manner.

Add a new paragraph immediately after paragraph 6:

The Contractor shall not award work valued at more than fifty (50%) of the Contract Price to Subcontractor(s), without prior written approval of the Owner.

Add the following language to the end of paragraph 6:

For all excavations in excess of five (5) feet, the Contractor shall, pursuant to Labor Code Section 6705, submit in advance of any excavation hereunder a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from caving ground. No such excavation shall be made until said detailed plan is submitted by Contractor and accepted by Engineer.

Add the following new paragraph immediately after paragraph 10:

G. If this is a "Public Works Contract" as defined in Section 22200 of the California Public Contract Code, claims shall be resolved pursuant to Sections 20104 et seq. of the California Public Contract Code. These sections are summarized as follows:

1. Claim means a separate demand by the Contractor for (a) a time extension, (b) payment of money or damages arising from work done by, or on behalf of the contractor, pursuant to this Contract, payment not otherwise expressly provided the Contract, or (c) any separate demand by the Contractor, the amount of which is disputed by the Owner.
2. For claims less than \$50,000, the Owner shall respond in writing to all written claims within forty-five (45) days of receipt of the claim, or may request in writing, within thirty (30) days of receipt of the claim, any additional documentation supporting the claim or relating to any defenses the Owner may have against such claim. The Owner's written response to the claim, as further documented, will be submitted to the Contractor within fifteen (15) days from receipt of the further documentation, or within a period of time no greater than that taken by the Contractor in producing the additional documentation, whichever is greater.
3. For claims over \$50,000 and less than or equal to \$375,000, the Owner shall respond in writing to all written claims within sixty (60) days of receipt of the claim, or may request in writing, within thirty (30) days of receipt of the claim, any additional documentation supporting the claim or relating to any defenses the Owner may have against such claim. The Owner's written response to the claim, as further documented, will be submitted to the Contractor within thirty (30) days from receipt of the further documentation, or within a period of time no greater than that taken by the Contractor in producing the additional documentation, whichever is greater.
4. If the Contractor disputes the Owner's written response, or the Owner fails to respond within the time specified, the Contractor may notify the Owner in writing within either fifteen (15) days of receipt of the Owner's response, or within fifteen (15) days of the Owner's failure to respond within the statutorily prescribed time, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon demand, the Owner shall schedule a meet and confer conference within thirty (30) days for settlement of the dispute.
5. Following the meet and confer conference, if the claim or any portion remains in dispute, the Contractor may file a claim pursuant to Government Code Sections 900, et seq. The period of time within to file such a claim shall be defined in Public Contract Code Section 20104.2(e).

Add the following language at the end of paragraph 14:

No payments will be made that would deplete the retainage, place in escrow any funds that are required for retainage, or invest the retainage for the benefit of the Contractor.

Delete Paragraph 14.07.C in its entirety and insert the following in its place:

1. Thirty-five days after the filing of a Notice of Completion with the County Recorder and after presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

End of Supplemental Conditions

SECTION 00015A CONTRACT BID FORMS TABLE OF CONTENTS

All Contract Bid Forms Due at Time of Bid

Section

00015A	Contract Documents Table of Contents
00300	Bid Proposal
00404	List of Material and Equipment Manufacturers
00405	List of Subcontractors
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00408	Contractor's Experience Statement
00410	Bid Security
00415	Bid Guaranty Bond
00420	Safety Compliance Non-
00480	Collusion Affidavit

SECTION 00300 BID PROPOSAL

San Lorenzo Valley Water District
13060 CA-9

Boulder Creek, CA 95006

Ladies and Gentlemen:

The undersigned hereby proposes to perform all Work for which a Contract may be awarded him/her and to furnish any and all plant, labor, services, materials, tools, equipment, supplies, transportation, utilities, water, and all other items and facilities necessary therefore as provided in the Contract Documents, and to do everything required therein for the Work as set forth in the documents entitled:

GLEN ARBOR BRIDGE PIPELINE REPLACEMENT

Together with appurtenances thereto, all as set forth on the Bid Package and other Contract Documents; and he/she further proposes and agrees that, if this Bid is accepted, he/she will contract in the form and manner stipulated to perform all the Work called for by Drawings, Specifications, and other Contract Documents, and to complete all such Work in strict conformity therewith within the time limits set forth therein, and that he/she will accept as full payment therefore the prices set forth in the Bid Sheet(s) forming a part hereof.

It is understood and agreed that:

1. The undersigned has carefully examined all the Contract Documents which will form a part of the Contract; and all additions, deletions, modifications, appendices, and all Addenda as prepared prior to the date of bid opening setting forth any modifications or interpretations of any of said documents.
2. The undersigned has by investigation of the site of the Work and otherwise satisfied himself/herself as to the nature and location of the Work and has fully informed himself/herself as to all conditions and matters which can in any way affect the Work or the cost thereof;
3. The undersigned fully understands the scope of the Work and has checked carefully all words and figures inserted in the Bid and he/she further understands that SLVWD will in no way be responsible for any errors or omissions in the preparation of this Bid;
4. The undersigned will execute the Contract Agreement and furnish the required proof of insurance coverage within ten (10) work days (not including Sundays and holidays) after Notice of Award to him/her of acceptance of his/her Bid by SLVWD.
5. The undersigned Bidder further agrees that if he/she shall fail to complete the Work within the Contract Time and any authorized extension thereof, he/she shall pay liquidated damages of one thousand dollars (\$1,000) per calendar day to SLVWD for each calendar day of unauthorized delay in completion of The Work, until the Work is completed unless another amount is agreed to and stated in the Contract Agreement.
6. The undersigned hereby certifies that this proposal is not made in the interest of; or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix

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Glen Arbor Bridge Pipeline Replacement Project
Bid Proposal Information

the bid price of the bidder or any other bidder, or to fix any overhead with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

7. In conformance with current statutory requirements of Section 1860, et seq., of the Labor Code of the State of California, the undersigned confirms the following as his/her certification; I am aware of the provision of Section 3700 of the Labor Code which require every employer to be insured against liability for workmen's compensation or to undertake self-insurance in accordance with the provisions before commencing the performance of the Work of this Contract.
8. SLVWD has obtained from the Director of the Department of Industrial Relations ("DIR") the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work in the locality in which the Public Work is to be performed for each craft, classification or type of workman needed to execute this Contract. (Copies of the wage determination are on file and may be obtained by interested parties at the office of SLVWD). The Contractor and all Subcontractors shall comply with all requirements and provisions of Section 1775 and 1776 of the California Labor Code. The Contractor shall forfeit, as a penalty to SLVWD, two-hundred dollars (\$200.00), for each calendar day, or portion thereof, for each worker paid less than stipulated prevailing rates for Work done under the Contract Agreement by him, or any Subcontractor under him, in violation of the provisions of the California Labor Code. Copies of these wage determinations shall be posted and maintained at the job site by the successful bidding Contractor.
9.
 - a. Subject to the provisions of Section 1810 to 1815, inclusive, of the California Labor Code, the time of service of any laborer, workman, or mechanic employed on the Work shall be limited and restricted to eight

(8) hours during any one (1) calendar day and forty (40) hours in any one (1) calendar week, except as otherwise provided in said sections, and the Contractor shall forfeit to SLVWD as a penalty, twenty-five dollars (\$25.00) for each laborer, worker, or mechanic employed in the execution of the Work by him or any Subcontractor under him for each calendar day during which such laborer, worker, or mechanic is required or permitted to labor more than eight (8) hours in any one (1) calendar day and forty (40) hours in any one (1) calendar week in violation of provisions of the California Labor Code.
 - b. The Contractor and all Subcontractors shall conform to all the requirements of Sections 1777.5 and 1777.6 of the California Labor Code concerning the employment of apprentices by the Contractor or any Subcontractor under him. The Contractor shall provide SLVWD with a copy of the contract award information at the time that information is submitted to the applicable apprenticeship program. Within sixty (60) work days after concluding the Work pursuant to this Contract, the Contractor shall submit, and require each Subcontractor under him to submit, to SLVWD and the apprenticeship program a verified statement of the journeyman and apprentice hours performed on the Contract.
 - c. Contractor and all Subcontractors shall comply with Sections 1776 and 1771.4(a)(3) of the California Labor Code, regarding payroll records, and shall be subject to penalties for violation thereof. The Contractor shall cause a clause identical to Section 00800CA, Paragraph K to be included in every subcontract for Work pursuant to this Contract.

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- d. Contractor shall not perform work with a Subcontractor who is ineligible to perform work on a public works project pursuant to Sections 1777.1 or 1777.7 of the California Labor Code.
10. In compliance with Section 1725.5 of the California Labor Code, Contractor must be, and must require all Subcontractors be, registered with the DIR prior to execution of the Contract Agreement. Contractor and all Subcontractors who bid or work on, and/or who are awarded the Contract Agreement, must be registered with and pay an annual fee to the DIR. Neither Contractor nor any Subcontractors may be listed on this Bid Proposal unless registered with the DIR pursuant to Section 1725.5 of the Labor Code. Neither Contractor nor any Subcontractors may be awarded the Contract Agreement unless registered with the DIR pursuant to Section 1725.5 of the Labor Code. This project is subject to compliance monitoring and enforcement by the DIR. Contractor shall submit proof of current DIR registration, and shall require all Subcontractors to submit proof of current DIR registration, to SLVWD prior to commencing work on this project.
11. In compliance with the provisions of Section 4100-4114 of the Public Contract Code of the State of California, and any amendments thereof, the undersigned Bidder has set forth below the name and the location of the place of business of each Subcontractor who will perform work or labor or render service to the Contractor in or about the construction of the Work to be performed under the Contract Documents in which this Bid is responsive, and where the portion of the Work which will be done by each Subcontractor for each subcontract is in excess of one-half of one percent (0.5%) of the Total Bid. The undersigned Bidder understands that if he/she fails to specify a Subcontractor for any portion of the Work or specifies more than one subcontractor for any portion of the Work, he/she shall be deemed to have agreed to perform such portion himself/herself and that he/she shall not be permitted to sublet or subcontract that portion of the Work except in cases of public emergency or necessity, and then only after a finding is reduced to writing as a public record of SLVWD setting forth the facts constituting the emergency or necessity.
12. Receipt is hereby acknowledged of addenda number(s) _____
through _____.
13. The undersigned is licensed in accordance with the Laws of the State of California: License Number _____
Class _____, Expiration Date _____.
14. If the Bidder is a partnership, corporation, or joint venture, the undersigned certifies that he/she is entitled to execute and submit this Bid proposal on behalf of bidder.
15. In signing below, the Bidder certifies that its Total Bid includes funds sufficient to allow the Bidder to comply with all applicable local, state, and federal laws or regulations governing the labor or services to be provided under the Contract. Furthermore, the Bidder hereby indemnifies SLVWD for liabilities and penalties for violations of Section 2810 of the California Labor Code.

NOW: In compliance with all the provisions herein before stipulated, the undersigned, with full cognizance thereof, hereby proposes to perform the entire Work for the prices set forth in the attached Schedule(s) upon which Award of Contract is made. (A duly authorized officer of the company may sign on the president's behalf.)

Individual Name: _____

Contractor Address: _____

Partnership Name: _____

Business Address: _____

Phone No.: _____

By: _____, Partner

Other Partners: _____

Corporation: Name: _____

Business Address: _____

Business Address: _____

Phone No.: _____

Name: _____,

Title: _____

Organized under the laws of the State of _____.

Date: _____

(Place By: _____)

Seal Signature

**SAN LORENZO VALLEY WATER DISTRICT
Glen Arbor Bridge Pipeline Replacement Project
List of Subcontractors**

Here)

(Print Name and Title)

END OF SECTION 00300

SECTION 00404 LIST OF MATERIAL AND EQUIPMENT MANUFACTURERS

The undersigned Bidder understands and agrees that SLVWD may consider this Bid incomplete and unresponsive unless the Bidder names a manufacturer for each item of material or equipment in the following list. The undersigned Bidder hereby agrees that, after submission of this Bid, he/she will not make any change in the following listing of manufacturers and will not award a contract or agreement of any kind to a manufacturer not listed below for the listed items of material or equipment unless such change, award, or agreement is first approved in writing by SLVWD according to the provisions of the Contract Documents pertaining to substitutions and equals. The Bidder hereby certifies that the manufacturers' names below produce the listed items of material or equipment which comply with the requirements of the Contract Documents, and the undersigned Bidder will furnish and install the complying material or equipment of the manufacturers' names in the following list.

The items identified in the table below are deemed mandatory and shall be completed by the Bidder; however, the listed items are not considered to be a complete listing of materials or equipment required for the Project. The Bidder shall provide additional items manufacturer and model for other items.

SCHEDULE OF MANUFACTURERS		
ITEM	MANUFACTURER	MODEL

END OF SECTION 00404

SAN LORENZO VALLEY WATER DISTRICT
Glen Arbor Bridge Pipeline Replacement Project
List of Subcontractors

SECTION 00405 LIST OF SUBCONTRACTORS

The Bidder is required to furnish the following information in accordance with the provisions of the California Subletting and Subcontracting Fair Practices Act, contained in Section 4100 to 4114, inclusive, of the Public Contract Code of the State of California and any amendments thereto, for each subcontractor performing more than one-half of one percent (0.5%) of the Total Bid. Do not list alternative subcontractors for the same work. The Contractor shall list only one subcontractor for each such portion of Work as is defined by the Contractor in his/her Bid. Contractor shall not substitute any person as subcontractor in the place of a subcontractor listed below, except as provided in the General Conditions.

The Bidder understands that if he/she fails to specify a subcontractor for any portion of the Work to be performed under the Contract, or specifies more than one subcontractor for the same portion of the Work, he/she shall be deemed to have agreed that he/she is fully qualified to perform that portion himself/herself and that he/she shall not be permitted to sublet or subcontract that portion of the Work, except as provided in the General Conditions.

Work to be Performed	Percent of Total Contract	Subcontractor's Name and Address
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		

END OF SECTION 00405

SECTION 00406 CONTRACTOR'S LICENSING STATEMENT

Contractors are required by law to be licensed and regulated by the Contractors' State License Board which has jurisdiction to investigate complaints against contractors if a complaint regarding a patent act or omission is filed within four years of the date of the alleged violation. A complaint regarding a latent act or omission pertaining to structural defects must be filed within 10 years of the date of the alleged violation. Any questions concerning a contractor may be referred to the Registrar, Contractors' State License Board, P.O. Box 26000, Sacramento, California 95826. (A duly authorized officer of the company may sign on the president's behalf.)

The undersigned is licensed in accordance with the laws of the State of _____
providing for the registration of contractors:

License Number: _____

Class: _____

Expiration Date: _____

Name of Contractor's Firm: _____

Business Address and Telephone Number: _____

The following owner swears under penalty of perjury under the laws of the State of California that the information provided is true and correct:

Name of individual owner (Print or Type):

Signature of owner _____

Or

The following partners swear under penalty of perjury under the laws of the State of California that the information provided is true and correct.

Signature, title, and address of members signing on behalf of the partnership:

Name _____ Title _____

Address _____

Name _____ Title _____

Address _____

Name _____ Title _____

Address _____

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Contractor's Licensing**

Or

The following officers swear under penalty of perjury under the laws of the State of California that the information provided is true and correct.

Corporation organized under the laws of the State of _____

Signature of President of Corporation

(Place Seal

Signature of Secretary of Corporation Here)

For Owners, Partners or Corporation Officers:

This Contractor's Licensing Statement Form is executed at _____

_____(Location), California, on _____(Date).

END OF SECTION 00406

SECTION 00408 CONTRACTOR'S EXPERIENCE STATEMENT

The following outline is a record of the undersigned Bidder's experience in construction of a type similar in magnitude and character to that contemplated under this Contract. The Bidder shall include in his/her outline the project name, owner, contact name and phone number, type of work and final cost of all similar type projects constructed in the past five (5) years. The Bidder shall also provide the name, work resume, and qualifications for the individual who will be the job superintendent during the performance of this Contract. The Bidder shall not reassign the designated superintendent without prior approval of SLVWD. Additional numbered pages outlining this portion of the Bid may be attached to this Bid.

Project Name / Date Completed	Owner Name / Address	Contact Name / Phone	Type of Work	Final Cost

END OF SECTION 00408

SECTION 00410 BID SECURITY

(Check to accompany Bid) (Note: The

following form shall be used if check accompanies Bid)

Accompanying this proposal is a *Certified / *Cashier's check payable to the order of San Lorenzo Valley Water District, hereinafter referred to as "SLVWD," for

_____ Dollars (\$ _____), this amount being ten (10) percent of the total amount of the Bid. The proceeds of this check shall become the property of said SLVWD provided this proposal shall be accepted by the said SLVWD through issuance of a Notice of Award and the undersigned shall fail to execute a Contract and furnish the required Performance and Payment Bonds and Proof of Insurance Coverage within the stipulated time; otherwise, the check shall be returned to the undersigned. The proceeds of this check shall also become the property of SLVWD if the undersigned shall withdraw his/her Bid within the period of sixty (60) calendar days after the date set for the opening thereof, unless otherwise required by law, and notwithstanding the award of the Contract to another Bidder.

Bidder

*Delete the inapplicable word

NOTE: If the Bidder desires to use a bond instead of a check, the Bid Guaranty Bond form in Section 00415 shall be executed. The sum of this bond shall be not less than ten (10) percent of the total amount of this Bid.

END OF SECTION 00410

SECTION 00415 BID GUARANTY BOND

KNOW ALL MEN AND WOMEN BY THESE PRESENTS:

THAT _____, hereinafter called Principal, and

_____, hereinafter called the Surety, are jointly and severally held and firmly bound unto the San Lorenzo Valley Water District, 13060 CA-9, Boulder Creek, California 95006, hereinafter called SLVWD, in the penal sum of ten percent (10%) of the Bid of Principal for the Work described herein. This sum not to exceed

_____ Dollars (\$_____) lawful money of the United States of America, for the payment whereof unto SLVWD, Principal and Surety jointly and severally bind themselves forever firmly by these presents, except said penal sum shall not exceed ten percent (10%) of the amount Bid by Principal for Work which is awarded to Principal by SLVWD.

WHEREAS, Principal is herewith submitting a Bid for the Work entitled:

GLEN ARBOR BRIDGE PIPELINE REPLACEMENT

NOW, THEREFORE, the condition of this obligation is such that if Principal is awarded a Contract for the Work, and if Principal within the time specified in the Bid enters into, executes and delivers to SLVWD an agreement in the form provided herewith, and if Principal within the time specified in the Bid gives to SLVWD the performance bond and the payment bond on the forms provided herewith, and any other documents required by these Contract Documents, then this obligation shall be void. If, however, Principal shall fail or refuse to furnish, execute and deliver to SLVWD said agreement in the time stated in the Bid or should fail or refuse to furnish Performance Bond and Payment Bond or other required document in the time stated in the Bid, then Principal and Surety shall forfeit to SLVWD the penal sum hereof.

AND IT IS HEREBY DECLARED AND AGREED that Surety shall be liable under this obligation as Principal, and that nothing of any kind or nature whatsoever that will not discharge Principal shall operate as a release of liability of Surety

IT IS HEREBY FURTHER DECLARED AND AGREED that this obligation shall be binding upon and inure to the benefit of Principal, Surety and SLVWD and their respective heirs, executors, administrators, successors and assigns.

**SAN LORENZO VALLEY WATER DISTRICT
Glen Arbor Bridge Pipeline Replacement Project
Bid Guaranty Bond**

SIGNED AND SEALED THIS _____ day of _____, 2021.

Principal

By: _____

Signature

Surety

By: _____

Signature

(Surety's Mailing Address)

(Telephone Number)

(Attach Notary Acknowledgement of Surety)

(NOTE: The standard printed bond form of any bonding company acceptable to SLVWD may be used in lieu of the foregoing approved sample bond form provided the security stipulations protecting SLVWD are not in any way reduced by use of the Surety Company's printed standard form.)

END OF SECTION 00415

SECTION 00420 SAFETY COMPLIANCE

Contractors are required by law to comply with an established company Safety Program that includes an Injury Illness Prevention Plan (IIPP). The undersigned hereby proposes to follow their Contractor's Safety Program including all subcontractors while performing the work described as:

GLEN ARBOR BRIDGE PIPELINE REPLACEMENT

Complete the following information (as applicable):

Person responsible for implementing your Safety Program / IIPP on this project:

Name (Print):

Title:

Phone No:

Written Safety Program / IIPP: Yes ☐ No ☐ Dated: _____

Written Code of Safe Practices: Yes ☐ No ☐ Dated: _____

On-site Personal Protective Equipment (PPE) Requirements:

Yes ☐ No ☐ Eye Protection

Yes ☐ No ☐ Hard Hats

Yes ☐ No ☐ Steel Toed Boots

Yes ☐ No ☐ Hearing Protection

Yes ☐ No ☐ Respirators

Training Requirements:

Yes ☐ No ☐ Weekly Tailgate/Safety Training

Yes ☐ No ☐ Documented

Site Safety Inspections:

Yes ☐ No ☐ Regular Inspections

Yes ☐ No ☐ Documented

Material Safety Data Sheets (MSDS): Yes ☐ No ☐ On-site (Specific)

Equipment:

Yes ☐ No ☐ Manuals On-site (Specific)

Yes ☐ No ☐ Fire Extinguishers on Equipment

First Aid/CPR Trained Personnel On-site: Yes ☐ No ☐ Name: _____

Name: _____

SAN LORENZO VALLEY WATER DISTRICT
Glen Arbor Bridge Pipeline Replacement Project
Bid Guaranty Bond

Equipped On-site:

Yes ☐ No ☐ First Aid Kit
Yes ☐ No ☐ Fire Extinguishers
Yes ☐ No ☐ MSDS
Yes ☐ No ☐ Emergency Phone Numbers

Subcontractors:

Yes ☐ No ☐ Certificates of Insurance
Yes ☐ No ☐ Prime Named as Additional Insured.

Workers' Compensation Experience Modification Rate (last 3 years):

Year: _____ Rate: _____
Year: _____ Rate: _____
Year: _____ Rate: _____

OSHA Citations (within last 3 years): Yes ☐ No ☐ If yes, attach copy of citation.

Contractor/Subcontractor Training Requirements - Project Specific:

Yes <input type="checkbox"/> No <input type="checkbox"/>	OSHA 10 Hour	Yes <input type="checkbox"/> No <input type="checkbox"/>	Hazard Assessment
Yes <input type="checkbox"/> No <input type="checkbox"/>	Welding	Yes <input type="checkbox"/> No <input type="checkbox"/>	Fall Protection
Yes <input type="checkbox"/> No <input type="checkbox"/>	Electrical	Yes <input type="checkbox"/> No <input type="checkbox"/>	Confined Space
Yes <input type="checkbox"/> No <input type="checkbox"/>	Forklifts	Yes <input type="checkbox"/> No <input type="checkbox"/>	Rigging / Slings
Yes <input type="checkbox"/> No <input type="checkbox"/>	Demolition	Yes <input type="checkbox"/> No <input type="checkbox"/>	Tool Safety
Yes <input type="checkbox"/> No <input type="checkbox"/>	Accident Prevention	Yes <input type="checkbox"/> No <input type="checkbox"/>	PPE
Yes <input type="checkbox"/> No <input type="checkbox"/>	Scaffolding	Yes <input type="checkbox"/> No <input type="checkbox"/>	Haz-Com / MSDS
Yes <input type="checkbox"/> No <input type="checkbox"/>	Lock out / Tag out	Yes <input type="checkbox"/> No <input type="checkbox"/>	Trench / Shoring
Yes <input type="checkbox"/> No <input type="checkbox"/>	Cranes	Yes <input type="checkbox"/> No <input type="checkbox"/>	Ladders
Yes <input type="checkbox"/> No <input type="checkbox"/>	Traffic Control	Yes <input type="checkbox"/> No <input type="checkbox"/>	Asbestos/Lead/ Exposure

Training Documentation/Certificates:

Yes ☐ No ☐ Available Upon Request

END OF SECTION 00420

SECTION 00480 NONCOLLUSION AFFIDAVIT

Failure to submit a Non Collusion Affidavit in this form shall constitute grounds for rejection of the Bid.
This Affidavit to be fully executed.

NONCOLLUSION AFFIDAVIT

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.

Signature: _

Title: _

(Attach Notary Acknowledgement of Contractor)

END OF SECTION 00480

SECTION 01010 - SUMMARY OF THE WORK AND DESCRIPTION OF BID ITEMS

PART 1 - GENERAL

1.01 DESCRIPTION OF THE WORK AND DESCRIPTION OF BID ITEMS

The title for this project is the **Glen Arbor Bridge Pipeline Replacement Project** (Project).

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

The Work includes the provision of all labor, material and equipment to furnish and install the Work as described in the Contract Documents.

The Work in general, consists of the following major items:

Construction:

- a. Hot tapping and connections to existing 6" pipelines in Highway 9 and Glen Arbor Road.
- b. Installing buried 8-inch pipelines and appurtenances to an existing bridge structure.
- c. Attaching braces and supports for 8-inch ductile iron pipe to existing bridge.
- d. Pavement replacement as needed.
- e. Disinfection and pressure testing of the new piping.
- f. Other work as shown on the drawings.

Scope, fee, and further conditions included in Bid Proposal Form. All Work to be performed in accordance with the project specific specifications, design drawings, San Lorenzo Valley Water District Standards, and the "Greenbook" Standard Specifications for Public Works Construction, latest edition.

1.02 LAND FOR CONSTRUCTION PURPOSES

The Contractor shall utilize the construction storage and staging area shown on the Drawings. If additional construction storage and staging area(s) are required, the Contractor shall coordinate and supply, as necessary. The Contractor shall use all storage and staging areas at his own risk and shall not be entitled to extensions of time or additional compensation caused by loss of materials stored or maintained at these sites. Additionally, the Contractor shall not interfere in the normal operation of any ancillary or other facilities, either SLVWD owned or not, during the completion of the Work. The Contractor shall maintain full access at all times to all homes, businesses, equipment, or other facilities for the conduct of normal or emergency operations.

On Private Property. Easements across private property are indicated on the Drawings. Contractor shall stay within the boundaries of construction easements across private property. The Contractor shall not enter any private property outside the easement boundaries without written permission from the Owner of the property, the District Engineer, or SLVWD.

1.03 NOTICES TO OWNERS AND AUTHORITIES

The Contractor shall, as provided in the General Conditions, notify owners of adjacent property and utilities 5 work days prior to prosecution of the Work which may affect the adjacent property owners.

When it is necessary to temporarily deny access to property, or when any utility service connection must be interrupted, the Contractor shall give notices 10 work days in advance to enable the affected person(s) to provide for their needs. Written notices will conform to any applicable local ordinance and will include appropriate information concerning the interruption and instructions on how to limit their inconvenience. All interruptions caused by the Contractor or the Work shall be coordinated and pre-approved by SLVWD, without exception. Failure to acquire prior SLVWD approval shall

result in the Contractor being liable for all costs associated with the interruption of services.

1.04 UNFAVORABLE CONSTRUCTION CONDITIONS

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

1.05 PRE-CONSTRUCTION CONFERENCE

Prior to the commencement of Work, a pre-construction conference will be held at a mutually agreed time and place which shall be attended by the Contractor's Project Manager, superintendent, and subcontractors, as appropriate. Other attendees will be the District Engineer, Design Engineer, and SLVWD representatives. The purpose of the conference is to designate responsible personnel and establish a working relationship. Matters requiring coordination will be discussed and procedures for handling such matters established. The complete agenda will be furnished by SLVWD to the Contractor prior to the meeting date. The District Engineer, or designee, will preside at the pre-construction conference and will arrange for keeping and distributing the minutes to all persons in attendance.

1.06 SUMMARY OF CONSTRUCTION PROCEDURES

The Contractor shall provide SLVWD and the District Engineer at the pre-construction meeting a schedule denoting the sequence of construction to be followed during the Project. The Contractor shall revise their construction sequence based on this review at no additional cost to SLVWD to avoid potential coordination impacts. This review is for the benefit of the Contractor and shall in no way relieve the Contractor of their responsibilities discussed in the Contract Documents.

1.07 CLEAN UP

The Contractor shall keep the premises free at all times from accumulation of waste materials and rubbish. The Contractor shall provide adequate trash receptacles about the site and shall promptly empty the containers when filled.

Volatile and hazardous wastes shall be properly stored in covered metal containers and removed daily in accordance with all applicable disposal regulations.

Wastes shall not be buried or burned on the site or disposed of into storm drains, sanitary sewers, streams, or waterways. All wastes shall be removed from the site and disposed of in a manner complying with applicable local ordinances and anti-pollution laws.

Adequate on-going cleanup will be a condition for approval of progress payment applications.

1.08 TRAFFIC CONTROL

The Contractor shall coordinate with the District Engineer or other agencies having jurisdiction while working in streets, roads, or other traveled ways. If required by SLVWD, County or other agency, a traffic control plan shall be developed by the Contractor and submitted for approval by the District Engineer, SLVWD, County, CALTRANS and any other agency having jurisdiction over the Work, at no additional cost to the SLVWD.

1.09 COOPERATION AND COLLATERAL WORK

The Contractor shall be responsible for ascertaining the nature and extent of any simultaneous, collateral, and essential work by others. SLVWD, its workers and contractors, and others shall have the right to operate within or adjacent to the site during the Contractor's performance of such Work. SLVWD and the Contractor, and each of such workers, contractors and others, shall coordinate their operations and cooperate to minimize interference.

The Contractor shall include in their Bid all costs involved as a result of coordinating their Work with others. The Contractor shall not be entitled to additional compensation from the SLVWD for damages resulting from such simultaneous, collateral, and essential Work. If necessary to avoid or minimize such damage or delay, the Contractor shall re-deploy its work force to other parts of the Work. Should the Contractor be delayed by SLVWD, and such delay could not have been reasonably foreseen or prevented by the Contractor, the District Engineer will determine the extent of the delay, the effect on the project, and any extension of time. The decision of the District Engineer shall be final.

1.10 MAINTENANCE OF SYSTEM OPERATIONS

The Contractor shall maintain all SLVWD facilities in operation during the progress of the Work. All costs incurred as a result of the Contractor's disabling of system operations prior to the approval of SLVWD and the District Engineer shall be the sole responsibility of the Contractor, including any fines or other mitigating costs resulting from the Contractor's actions.

1.11 BID ITEMS

The Contractor shall furnish bids for the following items:

Bid Item No. 1 – Mobilization and Traffic Control Mobilization and Traffic Control shall be in accordance with Section 2, "Proposal Requirements and Conditions" of the State Standard Specification and the notes and details shown on the drawings. Payment shall be lump sum complete.

Bid Item No. 2 - Tap Existing Pipeline Tap Existing pipeline shall include excavation, tapping saddle, tapping valve, materials, fittings, trench plating, backfill, pavement restoration, testing, disinfection, pavement repair and all labor, equipment and transportation necessary to complete tapping existing pipelines. Payment shall be per each complete in place.

Bid Item No. 3 - Buried 8-inch Pipe Buried 8-inch Pipe shall include furnishing and installation of 8 inch diameter ductile iron pipe with restrained mechanical joint, penetration and sleeving of retaining wall, and gate valves, including excavation, and off haul of unsuitable material (if any), driveway restoration, base rock trench cap, concrete cap, gaskets, thrust blocks, materials, fittings, poly wrap, temporary blow-offs, pipe laying, backfill, testing, disinfection, pavement repair, and all labor, equipment and transportation necessary to complete the project. Payment shall be per lineal foot of 8-inch diameter buried ductile iron pipe complete in place.

Bid Item No. 4 - Bridge Supported 8-inch Pipe Bridge Supported 8-inch Pipe shall include furnishing and installation of 8-inch diameter restrained mechanical joint ductile iron pipe and gate valves on Glen Arbor Road Bridge including all materials, pipe, fittings, valves, support brackets, flexible connections, pipe laying, scaffolding, testing, disinfection, and all labor, equipment and transportation necessary to complete the project. Payment shall be per lineal foot of 8-inch diameter bridge supported ductile iron pipe complete in place.

The various items to be included in each bid item shall be as set forth in these Specifications.

Irrespective of whether a specific item of work shown on the drawings or specified or is mentioned in the bid items, all work required shall be included in the Total Bid Price of the Contract.

1.12 COST BREAKDOWN

Within thirty (30) days after signing the Contract, but in any event prior to the first Application for Payment, Contractor shall submit a Cost Breakdown of each lump sum items.

The Cost Breakdown shall itemize as separate line items the cost of each work activity and all other costs, including warranties, record documents, insurance, bonds, overhead expenses and the total allowance for profit, the total of which shall equal the Base Bid. The Cost Breakdown, when approved by the District, shall become the basis for determining the cost of Work performed for Contractor's Applications for Payment.

PART 2 – PRODUCTS (Not used)

PART 3 – EXECUTION (Not used)

END OF SECTION 01010

SECTION 01011 - DRAWINGS AND SPECIFICATIONS

PART 1 - GENERAL

1.01 SUMMARY

It is intended that the information pertaining to conditions that may affect the cost of the Work will be shown on the drawings or indicated in the specifications; however, SLVWD does not warrant the completeness or accuracy of such information. The Contractor shall ascertain the existence of conditions that would affect the cost of the Work which would have been disclosed by a reasonable examination.

Existing improvements visible at the jobsite for which no specific disposition is made on the Drawings but which could reasonably be assumed to interfere with the satisfactory completion of the improvements contemplated by the drawings shall be removed and disposed of by the Contractor.

Where details of foundations and anchorages for miscellaneous equipment and material items, both Contractor-furnished and SLVWD-furnished, are not shown on the Drawings, the Contractor shall prepare and submit designs of the foundations and anchorages for the equipment as part of the equipment submittal.

SLVWD will furnish to the Contractor copies of drawings and specifications in accordance with the following:

1. Specifications text - 4 copies (1 copy unbound; 3 copies bound)
2. Drawings - 1 set, full-size reproducible bond
3. Drawings - 1 set, half-size reproducible bond

1.02 REVISED DRAWINGS AND SPECIFICATIONS

If revisions to the Drawings or Specifications or additional detailed drawings are made during the progress of the Work, SLVWD will provide copies in accordance with the schedule stated above.

The latest revision of a Drawing or Specification shall supersede all previous copies of the Drawing or Specification. The Contractor shall make certain that the latest revised Drawings and Specifications are used on the Project.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01011

SECTION 01015 - GENERAL REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

This Section covers general provisions and requirements for the Work and is supplementary to the Conditions of the Contract. Requirements stated in this Section are general and may be further detailed in subsequent Specification Sections.

1.02 REFERENCE STANDARDS

Whenever references are made in the Specifications to published standards or specifications, the latest standards or specifications of the respective issuing agencies that have been published as of the date that the Work is advertised for bids shall apply, except as otherwise specified herein and except to the extent that the standards or specifications may be in conflict with applicable laws, regulations, ordinances, or governing codes. No requirement set forth in these Specifications or shown on the Drawings shall be waived because of any provision thereof, or omission from, the standards or specifications. All Work shall comply with applicable laws and regulations.

The Contractor shall obtain copies of necessary reference standards directly from the publications' sources. SLVWD shall not be responsible for providing reference standards to the Contractor.

This article summarizes, without limitation, the laws and codes by which the Work has been designed and to which the Contractor shall conform in the prosecution of the Work. The Contractor shall make available for use at the site such copies of laws, regulations, or codes applicable to the Work as the District Engineer may request of him.

Laws and Regulations. As specified in the General Provisions.

Codes.

1. California Building Code.
2. Title 8, Industrial Relations, California Administrative Code, Chapter 4, Division of Industrial Safety, Safety Orders.
3. Title 19, Public Safety, California Administrative Code, State Fire Marshal.
4. Title 22, Environmental Health, California Administrative Code, Chapter 3, Division 4, Water Reclamation Criteria.
5. Title 24, California Administrative Code, Electrical Safety Orders.
6. Local Plumbing Code
7. National and Local Electrical Codes.
8. National Fire Protection Association.
9. Applicable State and Local Public Health Codes.

Specifications.

1. These Project Specifications and Drawings.
2. San Lorenzo Valley Water District Standard Specifications.
3. Standard Specifications for Public Works Construction ("Greenbook").

1.03 ABBREVIATIONS

Abbreviations used in the Contract Documents shall be interpreted according to their recognized and well-known technical or trade meanings. Such abbreviations include, but are not limited to, the following:

AASTHO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AGA	American Gas Association
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ANSI	American National Standards Institute
APWA	American Public Works Association

ASA	American Standards Association
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWS	American Welding Society
AWWA	American Water Works Association
CLFMI	Chain Link Fencing Manufacturers Institute
CS	Commercial Standard, US Department of Commerce
FedSpec	Federal Specification
HI	Hydraulics Institute
IBC	International Building Code
IEEE	Institute of Electrical and Electronic Engineers
IFC	International Fire Code
IPCEA	Insulated Power Cable Engineers Association
MIL-	Military Specification (leading symbol)
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NIST	National Institute of Standards and Technology
OSHA	Occupational Safety and Health Administration, US Department of Labor
PCA	Portland Cement Association
PS	Product Standard, US Department Commerce
SSPWC	Standard Specifications for Public Works Construction
UBC	Uniform Building Code
UL	Underwriter's Laboratories

1.04 TEMPORARY FACILITIES AND CONTROLS

Storage and Parking Areas. The Contractor shall coordinate and arrange for their own storage and parking areas necessary to complete the Work.

Construction Utilities. The Contractor shall furnish temporary piping, wiring, and other services necessary to distribute utilities to the places where Work is performed. The Contractor shall install construction lighting where Work is performed at night or under deficient daylight conditions to ensure correct performance and to provide for inspection and safe working conditions.

Construction Aids. The Contractor shall comply with all OSHA requirements and applicable laws, ordinances, rules, regulations, and orders pertaining to construction machinery and equipment, hoists, cranes, scaffolding, shoring, temporary supports, staging, materials handling facilities, tools, appliances and other construction aids. Where OSHA requirements are in conflict with other applicable regulations, OSHA requirements shall govern, where mandatory; otherwise the Contractor shall comply with the most stringent applicable requirements.

Transportation Facilities. The Contractor shall investigate the availability of transportation facilities and make necessary arrangements for delivery of materials to the site. All transportation shall be the sole responsibility of the Contractor.

Refuse Pickup. The Contractor shall arrange for and pay for weekly refuse pickup at the site.

Mail Delivery. If the Contractor utilizes an onsite office, the Contractor shall arrange for US Mail Service to the office.

Noise Control. The Contractor shall comply with all OSHA requirements concerning allowable noise levels throughout construction. All internal combustion engines in vehicles and construction equipment shall be equipped with effective mufflers to produce a maximum sound level of 70 dB at 50 feet from the source. Noise disturbance to adjoining property owners shall be minimized in accordance with all applicable federal, state and local regulations.

Dust Control. The Contractor shall provide dust control during construction operations, and shall be responsible for all damage resulting from dust produced by construction operations.

Water Control. The Contractor shall perform grading and other operations to maintain site drainage. Surface water shall not be allowed to accumulate in excavations or under structures. Surface water shall be controlled by means of ditches, dams, temporary pumps and piping, and other necessary methods. The Contractor shall legally dispose of surface and subsurface water. Mud, silt, or debris shall not be allowed to flow on or into adjoining or public property.

Air Pollution Control. The Contractor shall comply with all applicable federal, state and local laws, ordinances, rules, regulations, and orders pertaining to air pollution.

Sanitary Facilities

Toilet and Washing Facilities. The Contractor shall provide temporary chemical toilets for the use of all workers at the site as necessary for completion of the Work.

Drinking Water. The Contractor shall maintain a supply of cool, pure drinking water at the site, readily available to workers, with individual disposal drinking cups or a sanitary bubbler fountain as necessary for the duration of the Work.

Preservation of Property. The Contractor shall exercise care to avoid injury to existing improvements, adjacent property, and trees and shrubbery. Trees and shrubbery that are not to be moved, poles, fences, signs, property corners, all underground pipe and conduit, and other improvements within or near the Work shall be protected from injury or damage. If such objects, or improvements, are injured or damaged by reason of the Contractor's operations, they shall be replaced or restored, at the Contractor's expense, to a condition equal to or better than the condition prior to construction operations.

Survey Monuments. The Contractor shall not disturb any monuments or survey markers without permission from the District Engineer, and shall bear the expense of resetting any monuments or survey markers which may be disturbed without permission in accordance with applicable federal, state and local requirements.

Historical and Archaeological Resources. Should any items having historical or archaeological significance be discovered in the course of any construction activities, Work shall be halted, and the District Engineer shall be notified immediately. Under direction of the District Engineer, an archaeologist shall make an on-site inspection. The on-site inspection shall be used to make recommendations to SLVWD and other agencies having jurisdiction for determination of mitigation actions to be taken.

Utilities. The Contractor shall furnish and pay for utility service at the site and elsewhere as required for performing the Work.

1.05 UTILITIES

The location and existence of substructures were determined from a search of records maintained by their respective owners. No guarantee is made or implied that the information is complete or accurate. It shall be the Contractor's responsibility to determine the exact location of substructures and to protect from damage.

It shall also be the Contractor's responsibility to locate and protect service laterals, conduits, and appurtenances of any underground facility, the presence of which can be inferred from the presence of visible facilities such as buildings, meters, and junction boxes, prior to doing any Work that may damage any such facilities, or interfere with their service.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01015

SECTION 01025 - MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.01 SUMMARY

This Section defines the Lump Sum Prices, Unit Prices and Allowances listed in the Bid Schedules in Section 00300, and the manner in which they will be used to determine measurement and payment for all items included in the Bid Schedules.

Upon Contract award, the accepted Bid Schedules will become the Payment Schedule.

1.02 BID PROPOSAL

Measurement and payment will be made for each Payment Schedule item independently and in accordance with the provisions as follows:

1. Lump Sum Prices: The Contractor shall provide Lump Sum Prices in the Payment Schedule for all Work in the Contract Documents, except items of Work listed in the Payment Schedule as Unit Price Items. For Lump Sum items, only the total amount shall be provided.
2. Unit Price Items: Unit Price Items are provided for additive or deductive Work not presently quantified in the Contract Documents. Each unit price shall contain all costs and charges, including, without limitation, materials, labor, fabrication, delivery, installation or application, supervision, tools, equipment, incidentals, subcontractors, indirect costs, bonds, insurance, overhead, profit, and taxes. Unit Prices shall be the exact amount per unit to be applied to the units of Work actually provided or not provided for the purpose of modifying the Contract Price or establishing the payment due the Contractor, as applicable.

Unit Prices provided shall be held good and in effect until the Work is completed and accepted by SLVWD. Contractor-proposed Unit Prices which are so unbalanced as to be detrimental to the SLVWD's interest may be rejected or cause rejection of the Bidder's entire bid at the discretion of the SLVWD.

All Unit Price Items are included in the scope of the Contract without specific locations for the Work provided. SLVWD reserves the right to direct that these items of Work be performed when they are encountered, and the Contractor is obligated to accommodate this work within the original contract duration. The Contractor will not be entitled to additional time regardless of where Work is encountered.

SLVWD reserves the right to vary the total individual item total cost by +/- 25% by varying the Allowance Quantities.

When SLVWD's use of a Unit Price item exceeds 200% of the Payment Item Allowance Quantity, the Contractor or SLVWD may demand that the Unit Price Item be renegotiated for quantities in excess of 200%, whether the price is stipulated or bid. This provision is to prevail over any conflicting general condition provision.

Retention: Payment for all bid items is subject to the retention provisions.

1.03 SCHEDULE OF VALUES

The Contractor shall submit a schedule of values to the District Engineer for review and approval. The schedule of values shall be submitted within 10 work days after receipt of the Notice to Proceed.

The schedule of values shall include a detailed and itemized breakdown of subtasks, material, labor, equipment, etc. for each individual line item of the bid schedule. The schedule of values shall be complimentary to and serve as a basis to substantiate the bid schedule.

The schedule of values shall serve as the basis for progress payments.

1.04 MEASUREMENT AND PAYMENT

This article defines the manner and method to develop the Lump Sum, Unit Price, and Allowance bid amounts of all items identified in the Payment Schedule. Bid amounts will include all plant, equipment, tools, materials, labor, service, and all other items required to complete the Work included in the Contract unless specifically excluded by this Section.

Payment for all items of the Payment Schedule, whether lump sum or unit price, shall include all compensation to be received by the Contractor for furnishing all labor, materials, tools, equipment, supplies, transportation, subcontract work, incidentals, indirect costs, overhead, consulting services, manufactured articles, plant establishment and operations, taxes, insurance, bonds, profit, permits, and costs of compliance with public agency regulations having jurisdiction over the Work.

No separate payment will be made for any item that is not specifically set forth in the Payment Schedule. All costs shall be included in the individual bid items identified in the Payment Schedule for the various items of Work.

Work required for which no separate bid item is identified will be considered as a subsidiary obligation of the Contractor, and the cost therefore shall be included in the most applicable bid item.

Compensation for completion of the Work will be determined by the updated construction schedule. Payment amounts for each item will be the basis for development of budget values for activities included in the updated construction schedule.

All quantities shall be measured in accordance with industry standard practices, and as specified herein. The Contractor shall compute all quantities of Work performed for payment purposes. The District Engineer will verify measurements. Except for time, all quantities shall be measured to the nearest rounded off whole number. Time shall be measured to the nearest tenth of an hour.

The following quantities shall not be included for payment:

1. Quantities of material wasted or disposed of in a manner not called for under the Contract or a consequence of the construction method used to perform the Work.
2. Rejected loads of material, including material rejected after it has been placed, by reasons of the failure of the Contractor to comply with the Contract provisions.
3. Materials placed outside the Contractor's storage and staging area stated on the Drawings or lines established by the District Engineer.
4. Materials not incorporated into the final Work.
5. Materials remaining after the completion of Work.

No payment will be made for loading, hauling and disposing of rejected materials.

Final payment for Work covered by Unit Price Items will be made on the basis of the actual measured quantities accepted by the District Engineer multiplied by the Unit Price in the Payment Schedule.

PART 2 - PRODUCTS

2.01 PROGRESS PAYMENT REQUIREMENTS

Monthly progress payment requests are due on a certain day of each month (to be determined by SLVWD). Payment requests will be accepted prior to the submittal date; however, payment request processing will not begin until this date for purposes of meeting SLVWD's pay request processing obligations under the California Public Contract Code. Failure of the Contractor to submit pay requests by the submittal date may be cause for rejection of the payment request. If rejected, the Contractor may have to resubmit his payment request the next month. Should the submittal date fall on a holiday or weekend day during the month then the Contractor shall consider the next work day as the due date.

Partial payment for Work performed shall be in accordance with the updated construction schedule. The District Engineer will verify measurements and quantities. Each activity necessary to manage and complete the Work is identified on the construction schedule. Each activity will be assigned its respective value, a portion of the contract price.

Payment for all Lump Sum item costs and services incurred on this Contract shall be based on the earned value of Work accomplished during the reporting period. Earned value is determined by the completion percentage of each activity applied to the total value of the activity. No construction activity shall be deemed 100% complete until accepted by the District Engineer.

Unit Price items will be paid based on quantities installed.

Earned value is derived from the current status of the updated construction schedule as determined by the monthly schedule status submittal. Each schedule status submittal is reviewed and approved by the District Engineer prior to the Contractor obtaining approval for the Summary of Earned Values or quantities installed and the Payment Application.

The Contractor shall not take advantage of any apparent error or omission on the Drawings or Specifications, and the District Engineer shall be permitted to make corrections and interpretations as may be deemed necessary for fulfillment of the intent of the Contract Documents at no additional cost to the SLVWD.

2.02 PAYMENT APPLICATION

The Payment Application shall be submitted according to the format and instructions provided by SLVWD and is based on Work completed through the last day of the previous month or through the date established by the District Engineer.

Six copies of the Payment Application shall be submitted.

Payment Application shall be submitted monthly.

The Payment Application shall contain all necessary references and attachments that substantiate the invoice for progress payment, (e.g., certified payrolls, labor reports, updated construction progress schedule, and Summary of Earned Values).

Payment Application shall be submitted with updated construction schedule and project status report.

PART 3 - EXECUTION

3.01 MONTHLY REVIEW OF PAYMENT APPLICATION

Monthly review meetings between the Contractor and the District Engineer will be held within 7 work days prior to the payment application date designated by the District Engineer.

Prior to the monthly review meeting, the Contractor shall submit an updated construction schedule and a Payment Application showing a Summary of Earned Values for the reporting and payment period. The District Engineer will compare Contractor submitted earned values to available data.

The Contractor shall make any adjustments to the updated construction schedule and payment application, as deemed necessary based on the District Engineer's review. Upon the Contractor's completion of the adjustments, the District Engineer will forward the Payment Request to SLVWD. The District Engineer will determine payment amounts if agreement with Contractor is not reached.

3.02 PAYMENT FOR PRODUCTS STORED ON SITE

The Contractor may request payment for products (material and/or equipment) which will be incorporated in the Work and which will be delivered and stored on-site.

Payments for products stored at the site shall be based upon the cost of all acceptable materials and equipment not incorporated in the Work but delivered and suitably stored at the site; provided each such individual item has a value of more than \$5,000 and will become a permanent part of the Work.

The Payment Application shall contain a bill of sale, invoice, or other documentation warranting that the Contractor has received the materials and equipment free and clear of all liens, charges, secured interests, and encumbrances and evidence that the materials and equipment are covered by appropriate property insurance as specified in the insurance provisions and other arrangements to protect the SLVWD's interest.

END OF SECTION 01025

SECTION 01040 - PROJECT COORDINATION

PART 1 – GENERAL

1.01 SUMMARY

This Section includes provisions related to overall project coordination. Additional provisions are included within individual Specification sections.

1.02 SUBMITTALS

The Contractor shall submit a statement of qualifications of its proposed superintendent to the District Engineer for review. The statement of qualifications shall include the superintendent's name, the name of each project that is the basis of the qualifications, each project site location, a brief description of each project, and the name and mailing address for each project owner.

1.03 SUPERINTENDENT

The Contractor shall assign a duly authorized and competent person continually on the site during the Work. The superintendent shall have not less than 4 years' experience as a contractor's general superintendent on similar projects with complexity and configuration comparable to the Work described in the Contract Documents.

If the superintendent is not deemed qualified or if the superintendent's performance on the Project is determined to be unsatisfactory by the District Engineer, the superintendent shall be immediately removed from the Project pursuant to the Specifications Division 0, General Conditions.

The Contractor shall furnish to the District Engineer a written statement of the qualifications of the proposed substitute superintendent if a substitute superintendent is required.

A substitute superintendent shall meet the same requirements and shall be subject to approval by the District Engineer.

1.04 CONCURRENT CONSTRUCTION AND OPERATIONS

SLVWD facilities shown on the Drawings are operating facilities that are necessary to continue SLVWD's function of delivering water to SLVWD's service area. It is necessary that these facilities be kept operational at all times except as may be scheduled for tie-ins or other work. Concurrent with work performed under this Contract, SLVWD will perform routine operation and maintenance activities in and around the site. The Contractor shall maintain the work area to provide full access to all facilities so as not to compromise the ability of SLVWD to operate the facilities and so that the operators and maintenance personnel may perform their duties.

The Contractor shall cooperate with other contractors and SLVWD forces performing work at the site, shall conduct its operations in a manner to prevent unnecessary delay or hindrance to their work, and shall coordinate its work with theirs to permit proper and timely completion of all projects in the area.

1.05 RESTRICTED AREAS

The Contractor's personnel, agents, and subcontractors shall be restricted from entry to existing buildings and structures except as may be required by the Work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01040

SECTION 01050 - CONSTRUCTION SURVEYING

PART 1 - GENERAL

1.01 SUMMARY

This Section includes provision required by the Contractor for construction surveying as specified herein for the construction of the Work.

Contractor shall be responsible for any monumentation and/or benchmarks which will be disturbed or destroyed by construction. Such points shall be referenced and replaced with appropriate monumentation by a Licensed Surveyor or Registered Civil Engineer authorized to practice Land surveying in the State of California. A Corner Record or Record of Survey, as appropriate, shall be filed by the Licensed Land Surveyor or Registered Civil Engineer as required by the Land Surveyor's Act.

Contractor shall provide all surveying necessary for completion of Work as defined by the Contract Documents.

1.02 DEFINITIONS

Surveyor: The Surveyor will be an approved licensed Land Surveyor or Registered Civil Engineer authorized to practice Land Surveying in the State of California.

1.03 CONTROL

Existing valve boxes and bridge structures are the control points for this work.

1.04 QUALITY CONTROL

All surveying work will be performed under the direction and supervision of an approved licensed Land Surveyor or Registered Civil Engineer authorized to practice Land Surveying in the State of California employed or retained by the Contractor.

1.05 SUBMITTALS

Submittals shall be made in accordance with Specifications Section 01300, Submittals, and the following special provisions herein.

Prior to beginning any phase of the survey work, the Contractor shall submit to the District Engineer for approval, the Contractor's projected requirements for construction surveying of the Project, including timetable for required survey data.

All survey data will be recorded in accordance with standard methods approved by the District Engineer. All original field notes, computations, and other records for the purposes of layout will be recorded in field books, or other methods acceptable to the District Engineer. All "Cut Sheets" will be forwarded to the District Engineer prior to staking and/or excavation. Any changes to the cut sheets shall be recorded as changes and a complete set of "Record Cut Sheets" shall be submitted to the District Engineer.

The Surveyor shall submit to District Engineer, full descriptions and surveying, location, and elevation information for all monuments established as a part of this Project.

PART 2 - MATERIALS – (Not Used)

PART 3 - EXECUTION

3.01 LINE AND GRADE

All Work shall conform to the existing facilities and grades shown on the drawings.

Grades for underground conduits will be set at the surface of the ground. The Contractor shall transfer them to the bottom of the trench.

END OF SECTION 01050

SECTION 01060 - SAFETY, ENVIRONMENTAL, AND REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

The Contractor shall submit a site-specific Injury and Illness Prevention Program (IIPP) covering all work and Contractor and subcontractor employees at the site.

Permits: The Contractor shall submit copies of permits required by regulatory authorities and shall retain copies of the permits at the site.

1.02 REGULATORY REQUIREMENTS

The citation or listing of specific laws, ordinances, or regulations in this and other sections of the specifications is not a complete inventory of the laws, ordinances, or regulations that apply to those engaged or employed on the work, materials used in the work, the conduct of the Work, or the safety and protection of persons, property, and the environment. These citations shall not limit or diminish the Contractor's responsibility to keep fully informed of and observe and comply with laws, regulations, ordinances, codes, orders, rules, standards, or decrees of public bodies having jurisdiction.

In the event a law, regulation, ordinance, code, order, rule, standard, or decree conflicts with a requirement of the Contract, the Contractor shall make a written request for direction from the District Engineer.

1.03 PUBLIC SAFETY

Whenever the Contractor's operations create a condition hazardous to the public, flagmen and guards shall be furnished as necessary to give adequate warning to the public of the hazard.

The Contractor shall furnish, erect, and maintain fences, bridges, railings, barriers, lights, signs, and other devices as necessary to prevent accidents and avoid damage or injury to the public.

1.04 AIR QUALITY

The Contractor shall perform the work in accordance with the requirements of all federal, state, and local regulatory agencies including:

Monterey Regional Air Pollution Control District
California Air Resources Board (CARB)

Whenever abrasive blasting is to be performed, blast media shall be certified for use by CARB for unconfined blasting pursuant to CCR Title 17.

1.05 SAFETY, HEALTH AND PROTECTION

The Contractor shall comply with safety standards established within the Cal/OSHA CCR Construction Safety Orders (CSO) and General Industry Safety Orders (GISO) that are applicable to the work. The Contractor shall have a complete copy of the CSO at the work site.

A copy of the Contractor's IIPP and Code of Safe Practices, prepared in accordance with CCR Title 8 shall be kept at the site. Upon request, such documents shall be made available to the District Engineer for review.

The Contractor shall identify in writing to the District Engineer the Contractor's "competent person" responsible for performing inspections of excavations and protection at excavations required by CCR Title 8.

The Contractor shall revise the IIPP and Code of Safe Practices during the work as often as necessary to fit the operations and possible hazards.

The Contractor shall ensure the safety of SLVWD employees. SLVWD's employees will not be permitted to enter unsafe places for the purpose of making inspections except where an inspection is required to determine if previously detected unsafe conditions have been corrected. Where work is required to be inspected by the District

Engineer and the inspection is not performed due to the existence of an unsafe condition, the work shall be subject to rejection, or the work may be suspended in accordance with Section 13(a) of Document 00700, "General Conditions."

The Contractor shall be responsible for preventing health hazards arising from work-related activities of employees.

When possible, the Contractor shall notify the District Engineer in advance of safety inspections by OSHA or other governmental safety agencies. The District Engineer will attend safety inspections when notice is given sufficiently in advance for the District Engineer to be present. When the District Engineer is not present during a safety inspection, the Contractor shall immediately report to the District Engineer that a safety inspection has taken place and shall advise the District Engineer of violations, citations, or salient events arising from the inspection and of the Contractor's abatement actions.

The Contractor shall ensure the availability of emergency medical services to workers on the site.

1. Appropriately Trained Personnel: The Contractor shall ensure that a suitable number of appropriately trained personnel are available to render first aid. The names of these persons shall be made available to the District Engineer upon request.
2. First Aid Kit: The Contractor shall provide and maintain adequate first aid kits for the use of all persons employed on the work. The first aid supplies shall be in accordance with CCR Title 8 as a minimum.

Material Safety Data Sheets (MSDSs) shall be in accordance with Federal Standard 313C.

Head Protection: All persons shall be required to wear ANSI-standard hard-hats while at the worksite; no bump caps will be permitted.

1.06 ACCIDENT REPORTING

The Contractor shall report in writing to the District Engineer on or before the 10th of each month stating:

1. The number and character of all accidents during the previous month that resulted in loss of work time.
2. The total workforce employed on the Contract during the previous calendar month.
3. Other information that may be required by the District Engineer relating to project injuries or accidents.

Accidents or incidents that cause property damage or personal injury shall be reported to the District Engineer in writing as soon as possible, but in every case less than 24 hours after the incident.

1.07 VENTILATION

Ventilation and control of oxygen-deficient atmospheres, dusts, fumes, mists, vapors, and gases shall be in accordance with the CSO and all other applicable laws, ordinances, and regulations.

The nature of the work is such that the Contractor's employees will be required to enter and work in spaces defined as confined spaces by CCR Title 8.

In the existing facility certain spaces have been determined by SLVWD to be either permit-required or non-permit-required confined spaces.

At places determined by SLVWD to be permit-required spaces, danger signs shall be posted to inform exposed employees of the existence and location of and the danger posed by those spaces.

Entry into these spaces shall not be allowed without compliance with a permit-required, confined-space program in accordance with CCR Title 8

During the construction of the work it is likely that construction operations will create work spaces that must

be defined as either a permit-required or non-permit-required confined space.

The Contractor shall develop and implement a confined-space program in accordance with CCR Title 8.

At an appropriate time in advance of a necessary entrance into a confined space, the Contractor shall meet with the District Engineer to discuss the hazards and the entry and exit operations proposed.

If the space is part of the existing SLVWD facility, the District Engineer will apprise the Contractor of the elements, including the hazards identified and SLVWD's experience with the space.

The District Engineer will advise the Contractor of the requirements for entry and exit of SLVWD personnel for observation, inspection, or other duties.

At the conclusion of entry operations, the Contractor shall inform the District Engineer of the confined-space program followed and of the hazards confronted or created in the permit-required spaces during entry operations.

When the work continues on a daily basis in a particular confined space, the Contractor and the District Engineer shall develop procedures for daily updating of the permit procedures and re-evaluation of the entry or exit procedures.

Adequate ventilation shall be provided in all work spaces, including those not classified as confined spaces.

During the performance of work or operations requiring entry by personnel, the Contractor shall ensure that the air in all areas is in a condition suitable for health.

A sufficient supply of fresh air shall be provided at all times in all places where workers are working or operations are being performed, and provision shall be made for the quick removal of gases and dust generated by dust-producing operations.

Ventilating plants of ample capacity shall be installed, and suction and discharge points shall be provided as necessary to produce the conditions specified.

1.08 ENVIRONMENTAL PROTECTION

Hazardous Materials Storage: Hazardous materials shall be stored in covered, leak-proof containers when not in use, away from storm drains and heavy traffic areas, and shall be protected from rainfall infiltration. Hazardous materials shall be stored separate from non-hazardous materials, on a surface that prevents spills from permeating the ground surface, and in an area secure from unauthorized entry at all times. Incompatible materials shall be stored separately from each other.

1.09 PERMITS

The Contractor shall obtain all permits and pay permit fees and inspection costs required by agencies and authorities having jurisdiction. The costs for the permits and inspections shall be included in the price entered in the Bidding Sheet.

When the terms of permits obtained by either the Contractor or SLVWD require inspections by agencies or authorities other than SLVWD, the Contractor shall schedule the inspections and notify the District Engineer a minimum of 24 hours prior to the inspection being performed

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01060

SECTION 01200 - PROJECT MEETINGS

PART 1 - GENERAL

1.01 SUMMARY

This Section includes provisions for project meetings to be regularly conducted during construction.

1.02 PRE-CONSTRUCTION MEETING

After notification of award and prior to the start of any Work, a pre-construction meeting will be held at a time and place selected by SLVWD to discuss the Work, construction schedule, mobilization for the start of Work, and details of administrative procedures to be used during the progress of the Work.

Attending the meeting will be SLVWD representatives, the Contractor's site superintendent, Contractor's QA/QC Manager, and any other key members of the Contractor's staff, subcontractors and any other parties that may be deemed necessary by SLVWD. In addition to the attendees named herein, the meeting may be attended by representatives of regulatory agencies having jurisdiction of the Project, if required, and such other persons the District Engineer may designate. The District Engineer shall be the person who coordinates with the representatives of the regulatory agencies.

At the pre-construction meeting, the District Engineer will discuss details of procedures for site access, operational necessities at the facilities, procedures for payment applications, safety, schedule of project meetings, and other subjects as determined by SLVWD or requested by the Contractor.

The Contractor shall submit to the District Engineer emergency telephone numbers listing where the Contractor can be reached day or night, including weekends and holidays.

At the pre-construction meeting the Contractor shall submit a copy of the "Notice to Proceed" as issued by SLVWD and show proof that all permits incidental to the Work or made necessary by his operations have been successfully secured.

Agenda matters to be discussed or resolved and the instructions and information to be furnished or given by the Contractor at the pre-construction conference include, but are not limited to, the following:

1. Project meeting schedule.
2. Construction plans, progress schedule, and payment schedule of values.
3. Communication procedures between the parties.
4. The names and titles of all persons authorized by the Contractor to represent and execute documents on behalf of the Contractor.
5. The names, addresses, and telephone numbers of all those authorized by the Contractor to act on the Contractor's behalf in emergencies.
6. Construction permit requirements and procedures.
7. Access and rights-of-way to be furnished by SLVWD.
8. Forms and procedures for the Contractor's submittals.
9. Change Order forms and procedures.
10. Payment procedures.
11. First-aid and medical facilities to be furnished by the Contractor.
12. Construction equipment and methods proposed by the Contractor.
13. Other administrative and general matters, as necessary.

1.03 PROJECT MEETINGS

To enable orderly review of progress during the performance of the Work and to provide for systematic discussion of problems, SLVWD will conduct regularly scheduled project meetings throughout the performance of the Work. Project meetings will be held at a minimum once a week at the jobsite in accordance with a mutually acceptable schedule. More frequent meetings may be called after due notice is given to the Contractor.

The purpose of the project meetings is to analyze and resolve problems that might arise relative to execution of the Work, to discuss potential impact the Contractor's operations may have on facility operations, and to review the Contractor's look-ahead schedule. The Contractor shall advise the District Engineer at least 24 hours in advance of the project meeting regarding items the Contractor would like added to the agenda.

Attendees. Unless otherwise required by SLVWD, meetings shall be attended by the District Engineer, the Contractor, the Contractor's Construction Manager, and the Contractor's Superintendent. Subcontractors may attend when involved in the matters to be discussed or resolved, but only when requested by the District Engineer or Contractor. Persons designated by the Contractor to attend and participate in project meetings shall have the authority to commit the Contractor to the resolution of problems as agreed upon in the project meetings.

Subcontractors, materials suppliers, and others may be invited to attend project meetings when their aspects of the Work are involved, but the Contractor shall remain wholly responsible for its obligations under the Contract.

The meeting agenda will include a review, evaluation, and discussion of each construction schedule item and Contractor submittals.

The Contractor shall designate persons to attend these schedule meetings who are familiar with the construction schedule, current construction problems and activities, and with the logic of the Work sequences used in preparing the construction schedule and updates.

Project Meeting Records. The District Engineer will prepare meeting minutes of each meeting and will furnish copies to the Contractor within 5 work days thereafter. If the Contractor does not submit written objection and proposed corrections to the contents of such meeting minutes within 5 work days after distribution, it shall be understood and agreed that the Contractor accepts the meeting minutes as a true and complete record of the meeting.

1.04 REGULATORY AGENCIES

When requested, the Contractor shall attend meetings held or required by governmental or regulatory agencies having jurisdiction over the Work.

1.05 OTHER MEETINGS

Occasionally, as dictated by the Work progress and concerns, the District Engineer may call separate meetings to discuss specific topics. The Contractor's authorized representative is required to attend these meeting as requested by the District Engineer.

1.06 POST-CONSTRUCTION CONFERENCE

A post-construction conference shall be held prior to final inspection of the Work to discuss and resolve all unsettled matters. Bonds and insurance are to remain in force, and other documents required to be submitted by the Contractor will be reviewed and any deficiencies determined. Schedules and procedures for the final inspection process and for the correction of defects and deficiencies shall be discussed and agreed upon.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01200

SECTION 01300 - SUBMITTALS

PART 1 - GENERAL

1.01 SUMMARY

This Section includes provisions for Contractor submittals. Additional provisions may be included in specific Specifications Sections.

This Section contains general information pertaining to the processing of submittals. Additional detailed submittal requirements are contained within the individual technical Specification Sections.

All Contractor submittals shall be submitted to SLVWD electronically via email. Electronic submittals shall be in pdf format and transmitted to SLVWD as email attachments. Electronic submittals shall be returned to the Contractor via email with submittals as attachments.

For those submittals which cannot be prepared electronically and submitted by emailed (material samples), hard copies shall be submitted in accordance with the following:

1. Contractor shall furnish minimum of (8) copies of submittal unless specified otherwise. SLVWD will return (3) copies of submittal to the Contractor with comments noted thereon.
2. Submittals shall be mailed to:
San Lorenzo Valley Water District
Attn: Josh Wolff, District Engineer

1.02 REQUIREMENTS FOR SUBMITTALS

Submittals will be required for all fabricated articles.

SLVWD's approval of submittals shall not relieve the Contractor of the entire responsibility for the correctness of the work covered by the submittal. The Contractor shall assume all responsibility for misfits and deficient work due to errors in the submittals.

Submittals required by the Specification Sections shall be in accordance with this Section unless otherwise specified. Submittals not in accordance with this Section and with the technical Sections requiring the submittals will be returned to the Contractor as unsatisfactory.

Prior to the Contractor's submittal transmission to SLVWD, the Contractor shall carefully review each submittal to confirm that it is complete and to verify whether or not the proposed items or Work conform to Contract requirements. Each submittal shall be dated, signed, and certified by the Contractor as being correct and in conformance with the Drawings and Specifications. SLVWD will not review any items which have not been certified by the Contractor. All non-certified submittals will be returned to the Contractor without action taken by SLVWD, and any delays caused thereby shall be the responsibility of the Contractor.

Items that are not in accordance with the Contract requirements shall be conspicuously noted as such. The Contractor shall identify each proposed deviation on the corresponding transmittal letter and include a written explanation of the necessity for each deviation with the transmittal letter. Deviations that are not conspicuously marked on both the transmittal letter and the corresponding submittal drawing or data will be deemed to have been disapproved by SLVWD or not reviewed by SLVWD.

Transmittal Format

1. A separate transmittal letter, in a form acceptable to SLVWD, shall be used to transmit submittals for each specific item or class of material or equipment. Submittal of multiple items using a single letter of transmittal will be permitted, except only when the items taken together constitute a manufacturer's package or are so functionally related that expediency indicates review of the group or package as a whole.
2. Each submittal shall show the transmittal number, date of transmittal, project title, contract number, Specification Section or Drawing number(s) to which the submittal pertains, brief description of the material or equipment submitted, and the company name or the originator of the submittal. Each

transmittal letter shall be clearly marked to indicate the cases when the material is being submitted as a variation.

3. The transmittal number shall be indicated on every page of each copy of each submittal, and shall correspond to the number given in the transmittal letter. Only the first sheet of a bound set of originally published or printed brochures or catalogs shall be numbered.
4. Submittals shall be consecutively numbered beginning with the number 1.
5. Multiple-page submittals shall be collated into sets and each set shall be stapled or bound.
6. For submittal that are resubmitted for any reason, a new transmittal letter shall have the original submittal number followed by a hyphen and a number corresponding to the number of resubmittal. An example is 50- 2, where 50 is the submittal number and 2 is the number of times submittal 50 has been resubmitted. The transmittal letter shall indicate that it is a resubmittal.

1.03 RESPONSIBILITIES

SLVWD will reject incomplete submittals as not complying with the Contract requirements.

After receipt of a complete submittal and within the time limits described below, the District Engineer will transmit the submittal back to the Contractor marked with one of the following review status:

1. "Reviewed, No Exceptions Taken"
2. "Make Corrections Noted, Do Not Resubmit"
3. "Revised and Resubmit"
4. "Rejected"

For items marked "Make Corrections Noted, Do Not Resubmit," the revisions will be marked on the submittal or will be described as comments in the response letter. The submittal will be considered approved without formal revision. The Contractor shall, within 5 work days, submit (2) corrected record copies to the District Engineer for record purposes.

If the submittal is returned to the Contractor marked "Revised and Resubmit," the submittal will be transmitted to the Contractor with a statement of the deficiencies. The Contractor shall promptly revise the submittal and resubmit to the District Engineer.

If the submittal is returned to the Contractor marked "Rejected," the Contractor shall revise said submittal and shall resubmit to the District Engineer.

Revisions indicated on submittals shall be considered as changes necessary to meet the requirements of the Contract Documents, Specifications, or Drawings. Submittal revisions shall not be taken as the basis of claims for extra work. The Contractor shall have no claim for damages or extension of time due to any delay resulting from making required revisions to the submittals. The review of submittals by SLVWD shall in no way relieve the Contractor of responsibility for errors or omissions contained therein nor will such review operate to waive or modify any provisions or requirements contained in the Contract Documents, Specifications, or Drawings.

After approval of submittals, the Contractor shall not deviate from the approved submittal without the prior written consent from the District Engineer. Commencement of production Work performed in advance of the receipt of approved submittals shall be entirely at the Contractor's risk.

1.04 REVIEW SCHEDULE

The sequencing and scheduling of submittals shall be in accordance with the priority established in the approved construction schedule. Submittals that affect the critical path and near-critical path work items and large equipment submittals shall be scheduled to provide the greatest amount of float possible.

Submittals shall be made far enough in advance of scheduled dates of installation to provide the time for reviews, for securing necessary approvals, for possible revision and resubmittal, and for placing orders and securing delivery.

When delays are caused by the need for resubmission of submittals, the Contractor will not be entitled to damages or extension of time on account of the delay.

Submittal Review and Return Duration Requirements. The Contractor shall allow (20) work days for SLVWD's review of each submittal, and shall allow (20) work days for SLVWD's review of each resubmittal.

1.05 SUBMITTAL LOG

The Contractor shall prepare and maintain an accurate submittal log for the duration of the Project. The submittal log shall contain a listing of submittals and shall include the following information for each listed item:

1. Specification Section or Drawing number reference
2. Projected submittal submission date
3. Actual submittal submission date to SLVWD
4. Projected need approval date
5. Actual return date from SLVWD

1.06 SUBMITTAL FORMAT REQUIREMENTS

Product Data: Product data shall be annotated or highlighted to show the particular item(s) and option(s) that are proposed for use in the Work.

Drawings

Drawings shall be submitted in complete sets together with required data so that sufficient information will be available for a thorough evaluation.

Each Contractor submittal drawing shall include as minimum identification for checking:

- Contractor name
- Project name
- Applicable subcontractor name
- Preparer name
- Submittal number
- Drawing number and date
- Drawing title and appropriate subtitles
- Contract number and specification number
- Reference Contract Drawing number(s)

Submittal drawings shall have sufficient blank spaces for making corrections and for SLVWD's review stamp. The minimum blank space for stamping shall be a 3 inch square located at the lower right corner above the title block. Submittal drawings submitted without sufficient information or sufficient spaces for making corrections and stamping will be returned without review or approval.

Printed material such as catalog sheets, brochures, or other printed sheets may be submitted in place of submittal drawings, provided that the printed material fully describes the manufactured articles to be installed. If in the opinion of the District Engineer the printed material does not adequately describe the item, the printed material will be rejected and a submittal drawing shall be submitted.

Substitution of tabular computer printouts for layout drawings will not be acceptable; however, the Contractor may submit computer printouts along with the mandatory submittal drawings. CAD drawings are acceptable for submittal.

Samples

Samples of fabricated items shall conform to the specified requirements for tolerance and finish for the work they represent.

Samples of fabricated items shall be full-size, physically identical prototypes of the fabricated item proposed for incorporation in the Work.

Samples of materials shall be physically identical to the size, type, color, pattern, and texture of the materials proposed for incorporation in the Work.

When selection from a range of choices is specified, samples for selection of color, pattern, texture, or other characteristic shall include a full set of the standard range of choices for the material or product.

1.07 SUBSTITUTIONS

Whenever materials or equipment are specified or described in the Drawings or Specifications by using a name of a proprietary item or the name of a particular manufacturer, fabricator, supplier or distributor, the name of the item is intended to establish the type, function and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other manufacturers, fabricators, suppliers, or distributors may be accepted by the District Engineer if sufficient information is submitted by the Contractor to allow the District Engineer to determine that the material or equipment proposed is equivalent to that named. No substitute shall be ordered or installed by the Contractor without the District Engineer's prior written acceptance.

Submittals of substitutions, changes, and deviations shall be in accordance with this Section and may be permitted subject to the following requirements:

1. If the Contractor wishes to furnish or use a substitute item, material, or equipment, the Contractor shall make written application to the District Engineer for acceptance. The Contractor shall submit a request for such substitution and pertinent data substantiating the request to the District Engineer no later than 20 work days prior to the required material order date to maintain the project on schedule.
2. Contractor shall review Section 00700, General Conditions, Article 9.4, Substitutions and Equals, for administrative procedures and requirements prior to proceeding with substitutions. The Authorization of Engineering Costs for Evaluation for Substitutes and Equals form shall be submitted and approved prior to SLVWD proceeding with the evaluation of any substitution.
3. Request for review of substitute items, materials, or equipment will not be accepted by the District Engineer from any party other than the Contractor.
4. The proposed substitution, change, or deviation is conspicuously marked on the submittal drawings and/or data.
5. The corresponding line item on the transmittal letter is conspicuously marked as a substitution or variation.
6. The Contractor shall provide proof of the comparative quality and suitability of alternative items, materials, or equipment for proposed substitutions. Description, information, performance data, and other information as may be required by the District Engineer shall be submitted showing the equality of the items, materials, or equipment offered to those originally specified. The Contractor shall certify that the proposed substitute will perform adequately and the functions called for by the general design shall be similar and of equal substances to that specified, and the proposed substitute shall be suited to the same use and capable of performing the same use and function as that specified.
7. The application will state whether or not acceptance of the substitute or use of it in the Work will require a change in the Drawings or Specifications to adapt the design to the substitute and whether or not incorporation or use of the substituting connection to the Work is subject to payment of any license, fee or royalty.
8. All variations of the proposed substitute from that specified shall be identified in the application and available maintenance, repair and replacement services will be indicated. The application will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other Contractors affected by the resulting change, all which will be considered by the District Engineer in evaluating the proposed substitute.
9. The burden of proving the proposed substitute is "an equal" is solely the Contractor's responsibility and such proof should include sufficient factual and comparative data to establish that the request for the substitution is equal in: quality, utility, structural strength, mechanical and technical performance, finish, arrangement of plan, repair and maintenance, compatibility with other existing and specified items, and any other relevant data.
10. A written explanation of the necessity for the proposed change or deviation shall be indicated in the Contractor's submittal transmittal letter.
11. The specified Contract completion time shall not be affected by any circumstance developing from the provisions of this Section.
12. The Contractor shall have the proposed substitution tested as required by the District Engineer to determine that the quality, strength, physical, chemical, or other characteristics, including durability, finish, efficiency, dimensions, service, and suitability are such that the item, material, or

equipment will fulfill the specific intended function. Test methods shall be subject to the approval of the District Engineer. Test results shall be reported promptly to the District Engineer, who will evaluate the results and determine if the substitute item is equivalent. Installation and use of a proposed substitute item shall not be made until approved by the District Engineer.

13. SLVWD may require the Contractor to furnish at the Contractor's expense a special performance guarantee or other surety with respect to the proposed substitute.
14. The District Engineer will be the sole judge as to the comparative quality and suitability of alternative items, materials, or equipment. The District Engineer's decision will be final. If a proposed substitution item, material, or equipment offered by the Contractor is not found to be equal to the originally specified item, material, or equipment, the Contractor shall furnish and install the originally specified item, material, or equipment.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01300

SECTION 01312 - CONSTRUCTION SCHEDULES

PART 1 - GENERAL

1.01 SUMMARY

This Section includes provisions for Contractor developed and maintained construction schedules.

1.02 SUBMITTALS

Submittals shall be made in accordance with Specifications Section 01300, Submittals, and the following special provisions provided herein.

Construction schedule submittals shall consist of electronic pdf copies formatted to 8.5-inch x 11-inch or 11-inch x 17-inch, and an electronic copy in a file format readable by Microsoft Project.

Baseline Construction Schedule:

1. The Contractor shall submit the baseline construction schedule within 10 work days after receipt of the Notice to Proceed.
2. The District Engineer will meet with the Contractor to review and discuss the proposed construction schedule within 10 work days after receipt of the submittal. At this meeting, the District Engineer will inform the Contractor if the construction schedule is acceptable or if it must be revised and resubmitted.
3. In the event that correction of the baseline construction schedule is required, the Contractor shall resubmit the revised construction schedule within 10 work days of the meeting. The District Engineer will meet with the Contractor to review and discuss the construction schedule within 10 work days after receipt of the resubmittal. At this meeting, the District Engineer will inform the Contractor if the construction schedule is acceptable or if it must be revised and resubmitted.

Construction Schedule Updates. The updated construction schedule shall be submitted to the District Engineer at the end of each month, with the Contractor's progress payment application.

Narrative Progress Report. A written narrative progress report shall be submitted to the District Engineer at the end of each month, with the Contractor's progress payment application.

Failure to submit each package by the required date may result in a reduction in progress payment by SLVWD for the corresponding month.

Look-Ahead Schedule: Look Ahead Schedule shall be submitted weekly and a regular agenda item in the project coordination meetings. The Contractor shall submit the Look Ahead Schedule at least 24 hours prior to the project coordination meeting. The number of copies submitted and the layout and format of the look-ahead schedule shall be acceptable to the District Engineer.

1.03 CONSTRUCTION SCHEDULE

The Contractor shall provide a computer-generated construction schedule using Microsoft Project, or equal software that has the capability of producing a Gantt chart and identify critical path.

The construction schedule shall show in detail the Contractor's plan for construction of the Work. The degree of detail shall be to the satisfaction of the District Engineer and shall include, as a minimum:

1. The means, methods, and sequences for performing the Work.
2. Mobilization of plant and equipment.
3. Submission and approval of critical submittals.
4. Fabrication and delivery of critical equipment and materials.
5. Approvals and permits required by regulatory agencies or other third parties.
6. Access to and availability of work areas.
7. Identification of interfaces and dependencies with preceding, concurrent, and follow-on contractors and subcontractors.

8. Specified project phasing, milestones, and completion dates.
9. Testing.
10. The activities of the District Engineer that may affect progress or affect required dates for completion of all or part of the Work, including delivery of SLVWD- furnished equipment.
11. SLVWD dewatering, startup, and testing. Revisions to the Baseline Construction Schedule:
 - a. The Contractor shall immediately advise the District Engineer of proposed or required changes in the construction schedule logic or delays to the progress of the Work.
 - b. The Contractor shall furnish a revised schedule within 10 work days of the adoption of a change. The revised schedule shall be accompanied with a written narrative description of the change, the necessity for the change, the impact of the change to the specified schedule milestones, and the cost to SLVWD if the revised schedule is accepted.
 - c. The Contractor shall furnish a revised schedule within 10 work days of the award by the District Engineer of an adjustment in the time of completion of the Work.

Monthly Construction Schedule Updates. The Contractor shall update the current construction schedule monthly to indicate:

1. Actual activity-start dates
2. Actual activity-completion dates
3. Estimated duration, in work days, to complete each activity that is started but not completed
4. Actual total progress achieved to date on each activity in percent.
5. Non-working days granted by the District Engineer

1.04 NARRATIVE PROGRESS REPORT

As part of the monthly update process, the Contractor shall prepare a narrative progress report. The report shall describe the physical progress during the report period, the Contractor's plans for continuing the Work during the forthcoming report period, and actions planned to correct Work that is behind schedule. The report shall also provide a discussion of potential delays and problems and their impact on performance and the overall project completion date.

If the project falls behind schedule by more than 20 work days, the report shall contain proposed alternatives for schedule recovery.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01312

SECTION 01400 - INSPECTION OF WORK

PART 1 - GENERAL

1.01 SUMMARY

This Section includes provisions for SLVWD's inspection of the Work.

1.02 SUBMITTALS

Submittals shall be made in accordance with Specifications Section 01300, Submittals, and the following special provisions provided herein.

When requested by SLVWD, the Contractor shall furnish the District Engineer such additional information as may reasonably be required regarding the character of the materials and the progress of their procurement, including copies of invoices, bills of lading, and shipping lists on all articles and materials for use on the Work.

1.03 RESPONSIBILITIES

The Contractor shall be responsible for full compliance with every requirement of the Contract Documents, Specifications, and Drawings and shall ensure that the Work is in full accordance with the Contract Documents, Specifications, and Drawings. At all times, the Contractor's Work will be subject to rigid inspection by the District Engineer. Whether discovered by the Contractor or the District Engineer, nonconforming Work shall be corrected or replaced by the Contractor.

For convenience, materials or equipment to be incorporated in the Work may be designated in the Specifications or Drawings by a trade name or the name of a manufacturer and the manufacturer's catalog item number information. Materials, articles, or equipment, even if supplied by a manufacturer designated in the Specifications or Drawings, shall be accepted only if the items meet all other Specification requirements.

The Contractor shall furnish all tools, equipment, materials, supplies, and manufactured articles necessary or required for the performance and completion of the Work included in the Contract Documents, except for materials and equipment specified to be furnished by SLVWD. The materials, articles, and equipment provided for permanent installation in the Work shall be new and shall be in accordance with the Specifications and Drawings.

The Contractor shall perform quality control on suppliers, manufacturers, products, services, site conditions, and workmanship to ensure that Work conforms to the Contract Documents. The Contractor shall document its quality control activities.

The Contractor shall require and ensure conformance with specified standards as a minimum quality for the Work. When more stringent tolerances, codes, or specified requirements are required by a particular manufacturer or a particular Work item, the higher standards or more precise workmanship shall be provided.

The District Engineer's inspections and tests are for the sole benefit of SLVWD and shall not:

1. Relieve the Contractor of responsibility for providing adequate quality control measures.
2. Relieve the Contractor of responsibility for damage to or loss of the material before acceptance.
3. Relieve the Contractor of the responsibility for proper execution of the Work in accordance with the Contract Documents, Specifications, and Drawings.
4. Constitute or imply acceptance.
5. Affect the continuing rights of the SLVWD after acceptance of completed Work.

The Contractor shall be responsible for adjustments, corrections, or repairs found necessary after the delivery or installation of materials and articles.

Unidentified materials shall not be used in the Work, including work at fabrication plants.

The District Engineer will be responsible for performing all inspections on a timely basis to not impede the Contractor's Work.

1.04 SEQUENCING AND SCHEDULING OF INSPECTIONS AND TESTS

The Contractor shall fully advise the District Engineer regarding progress of the Work in its various parts.

The Contractor shall furnish and prepare the required samples and test specimens ready for testing in time for the necessary tests and analysis.

The District Engineer shall be given timely notice of the Contractor's readiness for inspection and testing. The length of advance notice shall be appropriate for the complexity of the inspection or test, the availability of the District Engineer, and the location of the inspection or testing, but in no case shall less than 24 hours' advance notice be given.

1.05 TESTING

Materials and articles that are to be included in the Work shall be subject to testing for conformance with the Specifications and Drawings.

The Contractor shall be responsible for conducting, costs, and coordination of all testing stated in the Specifications or Drawings, unless specifically stated otherwise.

When not otherwise specified, sampling and testing shall be in accordance with the methods prescribed in the current standards of ASTM applicable to the class and nature of the articles or materials considered. However, the District Engineer will have the right to use any generally accepted method of testing that will ensure that the quality of materials, articles, or Work is in full accord with the Specifications and Drawings.

SLVWD, additional test specimens of the materials to be used. Results of these tests and analyses will be considered with the results of other tests or analyses, whether performed by SLVWD or the Contractor, to determine compliance with the applicable specifications or standards for the materials.

1.06 INSPECTION BY THE DISTRICT ENGINEER

Materials and articles that are to be included in the Work shall be subject to rigid inspection by the District Engineer for conformance with the Specifications and Drawings. The Contractor shall plan for the inspections to be continuous, repetitive, and detailed.

Any Work or testing done in the absence of the District Engineer may be subject to rejection.

Orders for materials, articles, and equipment shall note that the articles, materials, and equipment are subject to inspection and acceptance by the District Engineer, both during manufacture or fabrication and after delivery to the site.

When practicable and convenient for the District Engineer, inspections will be made during the manufacture of the articles and equipment.

The location, alignment, grade, plumb, and other physical characteristics of formwork for concrete, items to be embedded in concrete and permanent improvements shall be subject to rigid survey verification.

Materials or articles shall not be incorporated in the Work until they have been inspected and approved by the District Engineer.

The Contractor shall not proceed with any subsequent phase of Work until the previous phase has been inspected by the District Engineer.

After testing, Work shall be covered or backfilled only with the approval of the District Engineer.

Inspection of the Work as well as other required services will be provided by the District Engineer between the hours of 7:00 a.m. and 5:00 p.m., Monday through Friday only. Any inspections or other services provided by SLVWD requested by or made necessary as a result of the actions of the Contractor beyond the hours stated above shall be paid for by the Contractor at the prevailing rate of 1½ times the regular hourly rate plus any applicable equipment or incidental costs. Additional SLVWD inspection services shall be designated on monthly payment applications as credits to SLVWD.

Inspections or other services by SLVWD requested by or made necessary as a result of the actions of the Contractor on Sundays or Holidays must be scheduled and approved by the District Engineer.

The need for overtime inspection or other services by SLVWD shall be determined by the District Engineer, and whose decision shall be final.

1.07 DIVE INSPECTION

After any reservoir has been filled and during the Operational Interim Period SLVWD may utilize divers to conduct underwater inspections of the Work including all other appurtenances and components of the Work. None on this project.

1.08 FACILITIES FOR INSPECTION AND TESTING

The Contractor shall furnish the facilities, utilities, and assistance necessary for the safe and convenient performance of inspections and tests required by the Specifications or by SLVWD.

The Contractor shall provide adequate lighting, access, and ventilation for a safe working environment for inspections and tests.

The Contractor shall cooperate with SLVWD personnel in the performance of their respective duties and the Contractor shall provide qualified personnel to assist with the performance of tests and inspections by SLVWD.

The Contractor shall provide qualified personnel to perform such tests or inspections.

1.09 REJECTION OF WORK

The District Engineer will have the right, at all times and in all places, to reject articles or materials to be furnished for the Work that fail to meet the requirements of the Contract Documents, Specifications, or Drawings. This shall be regardless of whether the defects in these articles or materials are detected at the point of manufacture or after completion of the Work at the site.

The District Engineer will be the sole judge as to the acceptable quality of materials, articles, and Work. Compliance with the requirements of the Contract Documents, Specifications, and Drawings is distinctly a duty of the Contractor and said duty shall not be avoided by any act or omission on the part of the District Engineer. Where the District Engineer, through an oversight or otherwise, accepts material, articles, or Work that is defective or that is contrary to the Specifications, the material, article, or Work, no matter in what stage or condition of manufacture, delivery, or erection, may be rejected by the District Engineer.

Promptly after notification of rejection by the District Engineer, the Contractor shall remove rejected portions or items of materials, articles, or Work to a satisfactory distance from the vicinity of accepted items and shall replace them.

All costs of removal and replacement of rejected articles or materials as specified herein shall be borne by the Contractor of Work items remaining to be completed.

1.010 FINAL INSPECTIONS AND ACCEPTANCE

Final inspections for acceptance of materials, articles, equipment, and Work will be made at the completion of all Work.

A minimum of 10 work days prior to the estimated completion of Work, the Contractor shall notify the District Engineer in writing of the pending completion of Work. The Contractor shall include with the "Application for Acceptance of Work" a complete list of Work items remaining to be completed.

On or about the Contractor's estimated completion date, the District Engineer will make a thorough inspection of all Work. Defects or deficiencies noted during this inspection will be reported to the Contractor in writing.

The Contractor shall notify the District Engineer in writing when all items on the defect and deficiency list are corrected. The District Engineer will make a thorough final inspection of Work.

If the District Engineer determines the Work to be complete, it will be accepted. If defects or deficiencies are noted during this inspection, they will be reported in writing to the Contractor. When the Contractor notifies the

District Engineer of the correction of these items, another final inspection will be scheduled.

If, in the District Engineer's judgment, all Work has been completed and is ready for acceptance the District Engineer will generate a Notice of Completion for recording the date the Work was completed. This will be the date when the Contractor is relieved from responsibility to protect the Work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01400

SECTION 01500 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 - GENERAL

1.01 SUMMARY

This Section includes provisions for the construction facilities and temporary controls to be provided and maintained by the Contractor.

1.02 SUBMITTALS

Submittals shall be made in accordance with Specifications Section 01300, Submittals, and the following special provisions provided herein.

The Contractor shall submit drawings showing the methods of temporary support and protection, along with calculations for the types of support structures of pipelines, utilities, temporary shoring, and structures to remain in place or whose initial or subsequent alignment will be temporarily changed during construction.

1.03 CONTRACTOR'S WORK AND STORAGE YARD AREA

The Contractor shall provide, at their own expense, a storage area, approved by the District Engineer, at the site for storage and staging all materials and equipment. No storage yard is shown on the drawings.

The Contractor shall locate offices, employee parking, storehouses, and storage areas for materials and equipment in the work and storage area.

The Contractor shall be responsible for the care of materials and equipment stored in the work and storage yard areas, and for the proper maintenance of fencing and structures.

Construction equipment shall not be stored at the work and storage area before its actual use on the Work nor for more than 5 work days after it is no longer needed. Time necessary for repair or assembly of equipment may be authorized by the District Engineer.

Construction materials shall not be stored in streets, roads, or highways.

Construction materials and equipment shall be stored in currently developed or disturbed areas outside of sensitive vegetation communities. Sensitive vegetation communities to avoid include annual grassland, chamise chaparral, coastal sage scrub, open water, southern mixed chaparral, and southern willow scrub.

If the Contractor requires work and storage area in addition to that shown on the Drawings, the Contractor shall propose additional location(s) to the District Engineer for approval. Consideration shall be based on SLVWD's operational activities and avoidance of sensitive vegetation.

1.04 SURFACE AND STORM WATER CONTROL

The Contractor shall conform to the applicable requirements of the Santa Cruz County Grading, Clearing, and Watercourses Ordinance.

The Contractor shall divert or otherwise control surface water and waters flowing from existing projects or structures from coming onto its work areas. The method of diversions or control shall be adequate to ensure the safety of stored materials and of personnel using these areas. Following completion of Work under the Contract, ditches, dikes, or other ground alterations made by the Contractor shall be removed and the ground surfaces shall be returned to their former condition, or as near as practicable, in SLVWD's opinion.

Surface and storm water that enters the Contractor's work area shall be controlled, treated, and disposed in a lawful manner.

The Contractor shall conform to the applicable requirements of the California Regional Water Quality Control Board, Central Coast Region, Order No. R9-2002-0020 for Discharges of Hydrostatic Test Water and Potable Water to Surface

Waters and Storm Drains or Other Conveyance Systems.

Water drained from pipelines and water used for flushing during cleaning operations shall be piped or conveyed into local drainage inlet catch basins, or storm drains where practical. Water will be allowed to flow in the street only in areas where drainage facilities do not exist and only under approved energy dissipation measures. The Contractor shall obtain a discharge permit from the Regional Water Quality Control Board (RWQCB), Central Coast Region, for discharge of water. Water shall be dechlorinated in accordance with RWQCB permit requirements.

1.05 FIRE PROTECTION AND PREVENTION

All parts of the Work shall be adequately protected against damage by fire. Hose connections and hose, water casks, chemical equipment, and other equipment required by local jurisdictions shall be provided for fighting fires.

The exhaust pipes of internal combustion engines used in the Work shall be equipped with approved spark arresters.

1.06 DUST CONTROL

The Contractor shall provide effective measures to prevent operations from producing dust in amounts damaging to personnel, property, SLVWD operations, plants, or animals, and to prevent causing a nuisance to persons living or occupying buildings in the vicinity.

Areas used by the Contractor for construction roads or other purposes in connection with the Work shall be given an approved dust inhibiting surface treatment to avoid production of dust. This surface condition shall be continuously maintained during the entire construction period. The Contractor's construction facilities shall be operated in a manner ensuring minimum dust production.

Trucks transporting soil, or cement, or debris shall be covered or moistened with water to suppress the dispersion of dust.

During construction operations the Contractor shall take each of the following actions to reduce fugitive dust emissions:

1. Replace ground cover in disturbed areas as quickly as possible.
2. Enclose, cover, water daily or apply non-toxic soil binders according to manufacturers' specifications, to exposed piles (i.e., gravel, sand, dirt) with five percent or greater silt content.
3. Water active sites at least twice daily.
4. All trucks hauling dirt, sand, soil, or other loose material are to be covered or should maintain at least two feet of freeboard (i.e., minimum vertical distance between top of the load and the top of the trailer) in accordance with requirements of CVC Section 23114.
5. Apply water three times daily along unpaved roads or apply non-toxic soil stabilizers according to manufacturers' specifications to all unpaved staging areas and unpaved road surfaces.
6. Traffic speeds on all unpaved roads to be reduced to 15 miles per hour or less.

1.07 LIGHT ABATEMENT

The Contractor shall exercise special care to direct floodlights to shine downward at an angle less than horizontal. Floodlights shall be shielded to avoid a nuisance to the surrounding areas. No lighting shall include a residence in its direct beam. The Contractor shall correct lighting nuisance whenever it occurs.

1.08 AIR POLLUTION CONTROL

The Contractor shall not discharge smoke, dust, or other air contaminants into the atmosphere in a quantity as will violate the regulations of any legally constituted authority.

The Contractor shall maintain equipment in proper mechanical adjustment to minimize the volume of exhaust emissions.

1.09 WATER POLLUTION CONTROL

The Contractor shall exercise every reasonable precaution to protect channels, storm drains, and bodies of water from pollution and shall conduct and schedule his operations so as to minimize or avoid muddying and silting of said channels, drains, and waters. Water pollution control work shall consist of constructing those facilities which may be required to provide prevention, control, and abatement of water pollution.

1.10 NOISE CONTROL

The Contractor shall conduct operations to abate noise wherever possible and to minimize noise where complete abatement is not possible. The Work shall be carried on as quietly as possible to prevent possible annoyance to adjacent residential property. Unnecessary noise shall be avoided at all times.

The Contractor shall maintain all construction vehicles and equipment in proper working order for the duration of the construction activities. All equipment shall have effective muffling/silencing devices in good working order.

The Contractor shall restrict work hours to the requirements of SLVWD and permits for each jurisdiction, whichever is more stringent. The Contractor shall comply with the noise requirements of any jurisdictional agencies. Particular consideration shall be given to allowable working hours.

1.11 NOT USED

1.12 PROTECTION OF NEW AND EXISTING IMPROVEMENTS

The general locations of existing utility installations shown on the Drawings are those that are known to exist, but this listing shall not be construed as a complete listing.

The Contractor shall be responsible for the safeguarding of all utilities. At least 2 work days before beginning work, the Contractor shall call the Underground Service Alert (USA) in order to determine the location of substructures. The Contractor shall immediately notify the District Engineer and the utility owner if the Contractor disturbs, disconnects, or damages any utility or substructure.

Where existing piping, utilities, and structures are to remain in place, these facilities shall be temporarily supported and protected until the Work has been completed, and compacted backfill has been placed to fully support said improvements. Facilities adjacent to the Work shall be protected in place when excavating in their vicinity. The support system shall prevent movement, dislocation, and deflection of the piping, utilities, and structures at all times. Supports and protection shall be designed, stamped, and signed by a civil engineer currently registered in the State of California and shall be acceptable to the owner of the improvement.

The Contractor shall pothole to determine depth and location of existing pipelines and utilities underground. The Contractor shall determine clearance for aboveground utilities. The Contractor shall be responsible for coordinating the potholing with SLVWD. No extension of time or additional compensation will be made for delays caused by the failure of the Contractor to complete the potholing in a timely manner.

The Contractor shall provide a typed pothole report. The report shall include a separate line item for each potholed utility identifying the utility, the utility size, the utility depth and the exact station of the potholed utility based on the stationing of the surveyed pipeline alignment.

All costs incurred in exposing and locating the existing utilities including all labor, tools, equipment for excavation, backfill and restoring existing surface improvements, shall be included in the bid price. The Contractor shall bear the cost of repairing or replacing any existing utility damaged by potholing work.

Except as otherwise specified, the pipelines and utilities whose initial or subsequent alignment will be temporarily changed during construction shall be supported and maintained in operation throughout the Work period.

The Contractor shall cover and protect finished surfaces of new or existing improvements with plywood, falsework, or other protective temporary works, as necessary.

1.13 RESTORATION OF IMPROVEMENTS

Upon completion of the Work, the Contractor shall reconstruct existing roads to a condition equivalent to that which existed before the start of Work. The Contractor shall broom clean paved surfaces; rake clean other surfaces or grounds.

1.14 SECURITY

The Contractor shall prevent unauthorized personnel or vehicular entry into the Project site.

The Contractor shall be responsible for providing security within the Work site as the Contractor deems necessary for the protection of its own equipment, materials, or Work from vandalism or theft. SLVWD will not be responsible for theft or damage to the Contractor's equipment, materials, or Work.

1.15 CLEAN UP

During all phases of construction, including suspensions of Work, and until final acceptance of Work, the Contractor shall keep the site clean and free from rubbish and debris and shall promptly remove from any portion of the site, or from property adjacent to the site, all unused materials, surplus earth and debris. The Contractor shall provide for the disposal of all surplus materials, waste products, debris, etc., and shall make necessary arrangements for such disposal. The Contractor shall obtain written permission from the District Engineer prior to disposing of any surplus materials, waste products, debris, etc. on private property, and shall obtain the approval of the District Engineer prior to such disposal.

After completion of all Work, and before making application for acceptance of the Work, the Contractor shall clean the site of their operations, including all areas under the control of the District Engineer that have been used by the Contractor in connection with the Work, and shall remove all debris, surplus material, and equipment, and all temporary construction or facilities of whatever nature, unless otherwise approved by the District Engineer. Final acceptance of the Work by SLVWD will be withheld until the Contractor has satisfactorily complied with the foregoing as well as the following requirements for final cleanup of the project area.

If the Contractor fails to maintain the premises in a neat and clean condition or fails to remove and dispose of rubbish or materials at the completion of the Project, the areas may be cleaned and materials, equipment, and rubbish may be removed and disposed of by the District Engineer at the Contractor's expense.

Surplus and all material removed which is not suitable for reuse in this Project shall be disposed of by the Contractor in a manner and at a location meeting the regulations of any legally constituted authorities.

The Contractor will not be permitted to use SLVWD trash bins for disposal of trash or rubbish. The Contractor shall provide containers for collection and disposal of waste materials, debris and rubbish.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01500

SECTION 01505 - MOBILIZATION AND DEMOBILIZATION

PART 1 – GENERAL

1.01 SUMMARY

This Section includes provisions for the Contractor's mobilization and demobilization.

1.02 MOBILIZATION

Mobilization shall include moving onto the site; payment for bonds, ordering major equipment; furnishing construction equipment; and furnishing and erecting plants, temporary buildings, and other construction facilities for the performance and completion of the Work.

Mobilization shall include the acquisition of all permits, specifically including encroachment permits from the County of Santa Cruz and encroachment "double permit" from California Department of Transportation (Caltrans); moving onto the site of all equipment, and other construction facilities, all as required for the proper performance and completion of the Work. Mobilization shall include, but not be limited to, the following principal items:

1. Installing temporary construction power, wiring, and lighting facilities.
2. Developing construction water supply, as required.
3. Providing all on-site communication facilities, including telephones and radios for Contractor personnel.
4. Providing on-site sanitary facilities and potable water facilities for Contractor personnel.
5. Arranging for and erection of Contractor's storage yard, as required.
6. Obtaining all required permits.
7. Payment of bonds.
8. Obtaining all OSHA required notices and establishment of safety programs.
9. Establishing SLVWD and Contractor field offices.
10. Ordering major equipment.
11. Submitting initial submittals.
12. Other construction facilities for the performance and completion of the Work.

Prior to commencement of any on-site Work, the Contractor shall submit a Construction Facilities Plan to the District Engineer for approval. Construction Facilities Plan shall show the layout, equipment, materials and procedures that Contractor proposes for construction of temporary electrical, telephone, lighting, water, sanitation, field offices, sheds, and other similar site facilities.

The Contractor's construction facilities shall be of a temporary nature. The Contractor at all times, shall be wholly responsible for the security of storage and staging area(s), lay down area(s), and for all materials, equipment and tools.

1.03 DEMOBILIZATION

Demobilization shall include moving off the site; disassembling and removing construction plant, equipment, temporary buildings and other construction facilities; and cleanup of the site.

1.04 PAYMENT FOR MOBILIZATION AND DEMOBILIZATION.

As soon as practicable after receipt of the Notice to Proceed, the Contractor shall submit a breakdown showing the relative value of each major component of mobilization and demobilization, including furnishing bonds, where the total of all these values is equal to the amounts stated on the Bid Schedule. This breakdown, when approved by the District Engineer, shall be the basis for determination of percentage completion and progress payments for mobilization and demobilization.

Progress payments for mobilization and demobilization will be made on a percentage completion basis of the amounts stated on the Bid Schedule.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01505

SECTION 01510 - TEMPORARY UTILITIES AND SERVICES

PART 1 - GENERAL

1.01 SUMMARY

This Section includes provisions for temporary utilities and services to be provided by the Contractor.

1.02 SUBMITTALS

Submittals shall be made in accordance with Specification Section 01300, Submittals, and the following special provisions provided herein.

The Contractor shall prepare a plot plan drawing showing temporary utility layouts and a single line diagram of the temporary construction power system. Temporary utility layouts and services shall be submitted to the District Engineer for review and approval.

The Contractor shall obtain and pay for all permits for temporary utilities and shall submit one copy of each permit to the District Engineer.

1.03 WATER

The Contractor shall arrange for all necessary water required for construction of the Work. The Contractor shall not make connection to, or draw water from any on-site or off-site fire hydrant without first obtaining permission from the District Engineer.

SLVWD will furnish reasonable quantities of water for use in construction free of charge to the Contractor at locations designated by the District Engineer and under the following terms and conditions:

1. The Contractor shall conserve water supplies and shall install SLVWD provided water meters to provide the District Engineer with records of the volume of water used. Undue waste of water will be reason for the District Engineer to close these sources to further use by the Contractor.
2. The method of pumping and the capacity and condition of pumps used by the Contractor shall be subject to the District Engineer approval.
3. The water source(s) to be designated by SLVWD.

The Contractor shall be solely responsible for the adequate functioning of water supply systems and shall be solely liable for claims or damage resulting from its use.

The Contractor shall provide and operate pumping plants, pipelines, valves, hydrants, storage tanks, and other equipment necessary to store and convey an adequate supply of water from the source to each work area. The design of the storage and conveyance system shall include consideration of the Contractor's plan for fire protection. A reduced-pressure-principle backflow prevention device shall be installed by the Contractor at each connection point of the Contractor's water supply system to the source. The backflow prevention device shall be tested by a certified backflow prevention device assembly tester, and a copy of the report shall be provided to the District Engineer.

Treated and untreated water supply outlets shall be labeled in accordance with applicable laws and regulations.

1.04 ELECTRICITY

The Contractor shall provide the power required for their operations. The Contractor shall provide and maintain, in good order, power equipment and installations to perform the Work.

When Work is permitted to be conducted at night or under conditions of deficient light, the work area shall be suitably lighted to afford adequate illumination for performance and inspection of the Work. Lighting for construction activities shall be directed away from residential areas, public highways, and roads. The Contractor shall be responsible for all construction lighting.

Construction electrical wiring and equipment shall be in accordance with CCR Title 8 and NEC. All temporary

connections for electricity shall be subject to the approval of the District Engineer and Pacific Gas and Electric representative, and shall be removed in the like manner at the Contractor's expense prior to final acceptance of the Work.

1.05 TELEPHONE

The Contractor shall provide and maintain the telephone equipment and service required for its operations. At all times during the progress of the Work, not less than one telephone shall be maintained in good order. If the Contractor elects to provide wireless telephone service, the area code of the wireless service shall be the same as the area code where the project is located.

1.06 SANITATION

The Contractor shall provide and maintain sanitary conveniences for the use of all persons employed on the Project. Sanitation facilities shall be in sufficient number and at such places as ordered or approved by the District Engineer and shall be in accordance with CCR Title 8.

1. Enclosed fixed or portable chemical toilets shall be provided wherever needed for the use of employees.
2. Washing facilities shall be provided wherever needed for the use of employees.

Sanitary fixtures, receptacles, toilet rooms, washrooms, and lavatories shall be kept clean and shall be frequently disinfected. The cleaning and disinfection of sanitary conveniences shall not be less than twice a week.

The Contractor shall provide for their employees an adequate supply of clean, potable drinking water, which shall be dispensed through approved sanitary facilities.

The Contractor shall obey and enforce such sanitary regulations as may be prescribed by the State Department of Health or other authorities having jurisdiction.

The District Engineer may from time to time prescribe rules and regulations for maintaining sanitary conditions at the site and the Contractor shall enforce observance of the same by his employees and the employees of the subcontractors, and if the Contractor fails to enforce these rules and regulations, the District Engineer shall have the authority to enforce them.

Wastewater shall not be interrupted. Should the Contractor disrupt existing sewer facilities, sewage shall be conveyed in closed conduits and disposed of in a sanitary sewer system. Sewage shall not be permitted to flow in trenches or be covered by backfill.

1.07 OTHER UTILITIES

The Contractor shall provide and maintain all other utilities required for its operations under the Contract.

1.08 REMOVAL OF TEMPORARY UTILITIES

Before final acceptance of the Work on the Project, all temporary connections and piping installed by the Contractor shall be entirely removed, and all affected improvements shall be restored to their original condition, or better, to the satisfaction of the District Engineer.

The Contractor shall remove the Contractor's field office promptly upon written direction from the District Engineer. Utility services shall be disconnected and capped. The area shall be restored, clean and free of any evidence of scarred landscape or damage to the surrounding vegetation.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01510

SECTION 01530 - SECURITY

PART 1 - GENERAL

1.01 SUMMARY

This Section includes provisions for the Contractor's security provisions.

1.02 GENERAL

The Contractor shall safeguard all Work, materials, equipment and property from loss, theft, damage and vandalism. Contractors' duty to safely guard property shall include SLVWD's property and other private property from injury or loss in connection with the performance of the Work.

The Contractor shall provide an approved construction fence around the work area which shall be adequately locked after working hours.

The Contractor shall employ watchmen, as needed, to provide the required security and prevent unauthorized entry.

The Contractor shall make no claim against SLVWD for damage resulting from trespassing, vandalism, or theft.

The Contractor shall be responsible for security and shall be liable for damage to SLVWD property and damage to other parties, arising from failure to provide adequate security.

If existing fencing or barriers are breached or removed for purposes of construction, the Contractor shall provide and maintain temporary security fencing equal to the existing in a manner satisfactory to the District Engineer.

Security measures taken by the Contractor shall be at least equal to those usually provided by SLVWD to protect the existing facilities during normal operation.

A security program shall be maintained throughout construction until final acceptance of the Work.

1.03 CONTRACTOR'S ACCESS TO THE SITE

Access to the site for Contractor's employees, material, tools, and equipment shall be as directed by the District Engineer.

The Contractor shall ensure that each of its employees, representatives, material suppliers and others acting for the Contractor shall be subject to the following:

Contractor employees shall park personal vehicles only in the Contractor designated parking area(s) identified by the District Engineer. The Contractor shall prepare and maintain this area as required.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION 01530

SECTION 01540 - LOAD RESTRICTIONS

PART 1 – GENERAL

1.01 SUMMARY

This Section includes provisions for load restrictions during construction activities.

1.02 REFERENCES

The publications and standards referenced herein form a part of this Specification.

When a date is given for reference standards, that edition shall be used. Where no date is given, the latest edition shall be used.

1.03 SUBMITTALS

Submittals shall be made in accordance with Specification Section 01300, Submittals, and the following special provisions provided herein.

Specifications for equipment to be used at existing or newly constructed pipelines, utilities, and structures shall be submitted to and approved by the District Engineer before use.

If the Contractor desires to exceed the specified load restrictions, the Contractor shall submit the request to the District Engineer for approval. The Contractor shall provide supporting technical data and engineering calculations prepared, stamped, and signed by a civil engineer currently registered in the State of California.

The Contractor shall provide design of all temporary supports in accordance with Section 01500, Construction Facilities and Temporary Controls. The Contractor shall not exceed the specified load restrictions until the District Engineer has reviewed and approved the request.

The Contractor shall submit identified traffic paths in the reservoir floor and additional protective measures to be utilized within the reservoir to protect and preserve the existing reservoir asphalt lining at common turning areas, braking areas, and all other areas subject to damage.

The Contractor shall submit construction equipment proposed for use within the reservoir.

1.04 LOADING

The Contractor shall use caution in performing the Work and shall use methods that avoid the imposition of heavy loads and surcharges on new or existing pipelines, utilities, and structures.

Loads shall not be placed upon or against recently completed concrete structures until the concrete has attained full design strength.

The Contractor shall furnish shoring and bracing that is required to prevent collapse, deflection, deformation, or other damage to structures, conduits, or pipelines during construction or backfill operations.

Shoring and bracing shall not be removed until the Work requiring their use has been completed and the District Engineer has approved the removal.

Excavation and backfill in the vicinity of existing piping, utilities, and structures shall be performed only by methods and with equipment approved by the District Engineer.

Pipeline and Utilities Load Restrictions

Within a lateral distance from the outside edge of a pipeline or utility that is equal to the depth from the ground surface to the invert of the pipe, loads imposed by the construction work or by equipment shall be governed by the restrictions shown below.

Height of Fill Over Pipe	Maximum Loading
≤ 2 feet	Hand-guided equipment
2 feet – 4 feet incl.	Tractor equipment to 25,000 lbs.
4 feet – 5 feet incl.	AASHTO H-20
> 5 feet	Cat 633E

For crossings, vehicle path shall be maintained in a smooth condition with no breaks in grade for 3 vehicle lengths on each side of the pipeline.

Structure Load Restrictions: For backfill on new structures, or for excavations adjacent to existing structures, loads imposed on structures by construction work or equipment adjacent to backfilled or partially backfilled structures shall not exceed AASHTO H-20 loading. Load restrictions shall be limited to those areas within a lateral distance from the outside face of buried structures equal to the backfill depth.

1.05 DAMAGE

The Contractor shall be liable for all damage caused by excessive loads and shall repair or restore damaged facilities at no additional cost to SLVWD.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01540

SECTION 01550 - ACCESS, PARKING, AND TRAFFIC

PART 1 - GENERAL

1.01 SUMMARY

This Section includes provisions for the Contractor's site access, parking and traffic controls.

1.02 REFERENCES

The publications and standards referenced herein form a part of this Specification.

When a date is given for reference standards, that edition shall be used. Where no date is given, the latest edition shall be used.

1.03 SUBMITTALS

Submittals shall be made in accordance with Specifications Section 01300, Submittals, and the following special provisions provided herein.

The Contractor shall submit a copy of haul route permit.

The Contractor shall submit video/photo documentation of existing conditions of all site access roads.

1.04 ACCESS TO THE WORK SITE

Primary access to the site shall be via CA-9 to Glen Arbor Road.

The Contractor shall coordinate with the District Engineer to determine appropriate routing of vehicles and personnel to and from the Project.

In case of need to enter the site after normal working hours, access shall be arranged in advance with the District Engineer.

The Contractor shall confine its activities and operations within the work area shown on the Drawings except as otherwise permitted by the District Engineer.

Site access and material delivery traffic shall consider school bus routes and pick-up/drop-off time of day to minimize impacts.

All truck staging areas shall be on site and coordinated by the Contractor. No truck staging will be permitted on public streets.

1.05 TRAFFIC CONTROL

The Contractor shall be responsible for the safe movement of vehicular traffic to and from the site, including traffic control measures required to ensure safe passage of vehicles and equipment and delivery of materials.

Traffic control shall be in accordance with CCR Title 8.

At least (1) flagman shall be provided at each intersection during periods when the Contractor's vehicular activity may conflict with other traffic along roads. The flagman shall ensure that the right-of-way is granted to loaded vehicles and shall provide for safety of all users of the road.

Traffic control and signage shall be in accordance with Manual of Traffic Controls for Construction and Maintenance Work Zones.

1.07 ACCESS ROADS

Throughout the entire Contract period, the Contractor shall share access roads, both those constructed by the Contractor or otherwise provided for Contractor's use, with SLVWD and other contractors whose work is adjacent to the Contractor's Work.

Coordination with other contractors shall be the responsibility of the Contractor. In case of conflicts or disputes, the District Engineer's decision will be final.

The Contractor shall be responsible for the maintenance and upkeep of access roads.

The Contractor shall provide dust control on access roads used in the Contractor's operations and on those roads subject to dust because of conditions created by the Work.

Roads shall be sprayed by water truck at least daily or more frequently during actual haul operations.

Once per week, or more frequently if necessary, the Contractor shall provide a sweeper to maintain existing SLVWD roads.

If on-site paved access roads become damaged during the Work, the Contractor shall promptly repair them with equivalent surfacing.

1.08 PUBLIC & PRIVATE ROADS

The Contractor shall be responsible for repairs to all damaged induced to public or private roads as a result of performing the Work and at no additional cost to SLVWD.

Repairs to damaged public or private roads shall be performed in accordance with local jurisdictional public works standards; or if no public works standards are applicable then Specification Section 02500, Paving,

Prior to the start of Work, the Contractor shall document the conditions of all public and private roads to be used for site access. Documentation shall include videos and/or photos. Site access existing conditions shall be documented, at a minimum, from Morro Hills Road to the site.

1.09 PARKING

On-site parking areas for Contractor personnel shall be limited to the Contractor's storage and staging area and any additional areas shown on the Drawings.

Parking areas required in excess of those areas shown shall be developed by the Contractor, off-site, at the Contractor's expense.

The Contractor shall provide transportation for personnel from parking areas to the Work areas.

At the Contractor's option, the Contractor's personnel may park in the area designated for Contractor storage.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01550

SECTION 01560 - TEMPORARY ENVIRONMENTAL CONTROLS

PART 1 - GENERAL

1.01 SUBMITTALS

Submittals shall be made in accordance with Specifications Section 01300, Submittals, and the following special provisions provided herein.

1.02 EXPLOSIVES AND BLASTING

The use of explosives on the work will not be permitted.

1.03 AIR QUALITY

General: The Contractor shall not create significant direct air quality impacts during the performance of the Work. The Contractor shall take corrective measures, as required by the District Engineer, to prevent significant air quality impacts during the work period.

Dust Control: The Contractor shall furnish all labor, equipment, and means required and shall carry out effective measures wherever and as often as necessary to prevent its 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 damage resulting from any dust originating from its operations. The Contractor shall provide adequate watering or other dust control measures to control dust on the work site. Dust control shall prevent fugitive dust from leaving the work area. Dust control or ground cover on graded areas left exposed for more than 90 days shall be provided by the Contractor. If necessary, the Contractor shall wash or sweep the adjacent access roads on the construction site to keep adjoining public roads clean.

Equipment Control: All motorized construction vehicles operating onsite for more than 90 days shall have a low NOx emission engine tune-up. Documented proof of tune-ups shall be made available to the District Engineer when requested.

Management: The Contractor shall encourage ride sharing among Contractor personnel and shall develop a voluntary ride share program.

1.04 RUBBISH CONTROL

During the progress of the work, the Contractor shall keep the site of the work and other areas used by it in a neat and clean condition, and free from any accumulation of rubbish. The Contractor shall provide sufficient dumpsters and trash containers for collection of rubbish. The Contractor shall dispose of all rubbish and waste materials of any nature occurring at the work site, and shall establish regular intervals, at least weekly, for collection and disposal of such materials and waste. The Contractor shall also keep all 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. The Contractor shall not dispose of rubbish or debris into storm drains or stream channels.

1.05 SANITATION

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.

Sanitary and Other Organic Wastes: The Contractor shall establish 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 Engineer and in accordance with all laws and regulations pertaining thereto.

1.06 CHEMICALS

All chemicals used during project construction or furnished for project operation, whether defoliant, soil sterilant, herbicide, pesticide, disinfectant, polymer, reactant or of other classification, shall be stored in accordance with

the manufacturer's instructions. The Contractor shall maintain copies of Material Safety Data Sheets for all chemicals used or furnished by the Contractor. Use of all such chemicals and disposal of residues shall be in strict accordance with the printed instructions of the manufacturer.

All chemicals used during the project construction or furnished for project operation, whether defoliant, soil sterilant, herbicide, pesticide, fertilizer, disinfectants, polymers, reactants, fuel, oil, hydraulic fluid, detergent, paint, solvent, glue, or any other classification, shall be stored within a containment area that minimizes contact of the chemicals and the storage containers with precipitation and surface water flows due to precipitation or flows from adjacent areas. If precipitation or surface water flows contact the chemicals or the storage containers, the Contractor shall notify the District Engineer to determine if the surface water has been contaminated or may be allowed to be discharged to the storm drains or stream channels. If the surface water flows have become contaminated due to contact with the chemicals or the storage containers, the Contractor shall provide for removal and/or treatment of the surface water flows at no additional costs to SLVWD. If spills occur in the containment area, the Contractor shall immediately notify the District Engineer and shall contain and clean up the spill to prevent spilled material from entering storm drains, stream channels, or groundwater or from being absorbed by the underlying pavement or soil.

All chemicals shall be stored, handled, and used in compliance with the appropriate regulatory agency requirements.

1.07 HAZARDOUS MATERIALS

The Contractor shall collect waste oil, used oil filters, other waste petroleum materials, and any other Contractor generated hazardous materials. Remove and legally dispose of all waste petroleum products and any other Contractor generated hazardous materials at suitable disposal facilities off of the job site at the Contractor's expense.

On site temporary fuel storage facilities shall be constructed to comply with current regulations. Such facilities shall be diked to contain any fuel spills. Fuel tanks shall be properly grounded.

The Contractor shall park construction vehicles in locations designated by the District Engineer. The Contractor shall provide oil drip pans to contain any oil leakage from construction vehicles.

1.08 EROSION AND SEDIMENT CONTROL

The Contractor shall implement effective wind erosion control and provide effective soil cover for inactive areas and all finished slopes, open space, utility backfill, and completed areas. Inactive areas of construction are areas of construction activity that have been disturbed and are not scheduled to be re-disturbed for at least 14 days.

The Contractor shall limit the use of plastic materials when more sustainable, environmentally friendly alternatives exist. Where plastic materials are deemed necessary, the Contractor shall consider the use of plastic materials resistant to solar degradation.

The Contractor shall establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from the site.

The Contractor shall effectively manage all run-on, all runoff within the site and all runoff that discharges off the site. Run-on from offsite shall be directed away from all disturbed areas or shall collectively be in compliance with the effluent limitations in the NPDES General Permit.

1.09 CULTURAL RESOURCES

The Contractor's attention is directed to the National Historic Preservation Act of 1966 (16 U.S.C. 470) and 36 CFR 800 which provides for the preservation of potential historical architectural, archaeological, or cultural resources (hereinafter called "cultural resources").

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.

In the event potential cultural resources are discovered during subsurface excavations at the site of construction, the following procedures shall be instituted:

1. The Construction Manager will issue a Stop Work Order directing the Contractor to cease all construction operations at the location of such potential cultural resources find.
2. Such Stop Work Order shall be effective until such time as a qualified archaeologist can be called to assess the value of these potential cultural resources.

1.10 TRAFFIC CONTROL

Work Hours: Normal work hours shall be from 7:00 a.m. to 5:00 p.m.

Truck Traffic: The Contractor shall schedule truck deliveries and hauling to and from the construction site prior to 2:30 p.m. on weekdays. Truck deliveries or hauling on weekends or holidays shall require prior approval by the District Engineer.

1.11 PROGRESS CLEANING

The Contractor shall maintain areas free of waste materials, debris, and rubbish. The site shall be maintained in a clean and orderly condition. Broom all concrete or other finished work areas at least once per month, prior to each progress payment request. Where material or debris has washed or flowed into or has been placed in existing watercourses, ditches, shoreline areas or elsewhere, remove such material or debris and legally dispose of it during the progress of the work.

Remove debris and rubbish from channels, wet wells, clarifiers, pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

1.12 SITE MAINTENANCE

The Contractor is responsible for site maintenance in the Contractor's work area, laydown area, and in all areas impacted by the Contractor's work activities. Such site maintenance activities include but are not limited to dust control, rubbish control, fence repair, maintenance of construction access roads and parking lots, and maintenance of erosion and sediment control facilities.

The District Engineer may direct the Contractor to perform site maintenance activities in other areas of the project site. The cost of such site maintenance activities in areas other than those identified in Paragraph 1.11A will be reimbursed to the Contractor in accordance with the Contract Documents.

PART 2 - PRODUCTS (Not applicable)

PART 3 - EXECUTION (Not applicable)

END OF SECTION 01560

SECTION 01610 - DELIVERY, STORAGE, AND HANDLING

PART 1 - GENERAL

1.01 SUMMARY

This Section includes the delivery, storage, and handling of materials. Additional provisions may be included in specific Specification sections for individual products or materials.

Materials, articles, and equipment shall be delivered, stored, and handled in accordance with these Specifications and the printed recommendations of the manufacturer; using means and methods that will prevent damage, deterioration, and loss, including theft.

1.02 SUBMITTALS

Submittals shall be made in accordance with Specifications Section 01300, Submittals, and the following special provisions provided herein.

Product Data: The Contractor shall submit 2 copies of the manufacturer's printed recommendations for storage, handling, and protection of materials, articles, and equipment to be incorporated in the Work shall be submitted a minimum of 20 work days prior to the receipt of the material, article, or equipment at the site

Test Reports and Certifications: Items requiring certification or mill test reports shall not be delivered or unloaded until 3 copies of the certification or mill test report have been submitted to the District Engineer.

1.03 DELIVERY

Delivery shall be scheduled to minimize long-term storage at the site and to prevent overcrowding of construction spaces. Special emphasis shall be placed on ensuring minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, or other losses.

Items shall be delivered to the site in the manufacturer's original sealed container or packaging system, complete with legible and intact labels and instructions for handling, protecting, storing, and unpacking. The label shall include the manufacturer's name, product name, manufacturing batch number (if appropriate), expiration date, ANSI hazard classification and ANSI handling precautions, if applicable.

1.04 STORAGE

Items subject to damage by the elements shall be stored in a warehouse or within a weatherproof enclosure or wrap that has adequate ventilation to prevent condensation.

Flammable materials shall be stored in a separate area. Temperature and humidity shall be maintained within the range required by the manufacturer's printed recommendations.

Materials for partial payment shall be stored in a manner that will facilitate inspection and inventory. Items requiring periodic maintenance or inspection shall be stored in a manner that will facilitate these operations.

If the District Engineer determines that satisfactory storage of an item is not being provided by the Contractor, the District Engineer may direct the Contractor to provide additional protection. If the Contractor fails to provide the additional protection, protection may be provided by the District Engineer. The cost for providing the protection may be charged to the Contractor or deducted from payment due the Contractor.

Installed items shall have protection provided equivalent to that specified above, with additional regard for possible damage or loss due to continuing construction operations.

1.05 HANDLING

The Contractor shall supply appropriate equipment and personnel to handle materials, articles, and equipment in a safe manner and in a manner that will not cause damage to the product, to the environment, to Work in progress, or to be completed Work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01610

SECTION 01710 - PROJECT CLOSEOUT

PART 1 - GENERAL

1.01 SUMMARY

This Section defines the overall transfer process from construction by the Contractor to operations by SLVWD. The Section defines the terms in this process, and outlines the responsibilities of the Contractor and SLVWD.

Project closeout is the process that commences as the Work nears Substantial Completion. It continues through Substantial Completion, and Final Acceptance of the Work.

1.02 PROJECT CLOSEOUT SEQUENCE OF EVENTS

The sequence of events and their description listed below represent the order of activities as the Contract proceeds from construction, through testing, Substantial Completion, and the Notice of Completion. Not all Work will proceed in this exact order. Adjustments may be made, after approval by the District Engineer for the mutual benefit of the Contractor and SLVWD. Any adjustments made in the sequence of events, to accommodate the Contractor, shall be at no additional cost to the SLVWD.

Closeout Sequence of Events and Description:

Project Closeout Deliverables: The Contractor shall provide the following:

- a. Final Record Drawings.
- b. Written guarantees and warranties, where required.
- c. Operations and maintenance data.
- d. Certificates of inspection and acceptance by local governing agencies having jurisdiction.

Pre-Final Inspection and Discrepancy List: The District Engineer will conduct a pre-final inspection of the Work prior to substantial completion. The District Engineer will prepare a discrepancy list (punch list). The discrepancy list includes items of Work which does not conform to the Contract Documents, Specifications, or Drawings, plus any additional items found to be missing, incomplete, damaged, incorrect, or constructed in an unworkmanlike manner. The Contractor shall correct all items on the discrepancy list.

Substantial Completion: Following correction of items on the discrepancy list, and successful completion of the operation demonstration, the Contractor shall notify the District Engineer in writing that the Work is substantially complete. Refer to the Contract Documents for other requirements for Substantial Completion.

Final Inspection: Following written notice from the Contractor that the entire Work is complete, the District Engineer, SLVWD, the Contractor, and the Design Consultant will conduct a final inspection to verify that the Work is complete. The District Engineer will prepare a final discrepancy list of all outstanding items.

Final Payment: After the Contractor has completed all final discrepancy list items, and completed all other requirements, the Contractor shall submit a final application for payment to the District Engineer. The final payment application will include all necessary documentation, in addition to waivers or releases of all liens filed in connection with the Work. The Contractor shall specifically release SLVWD from any claims not specifically renewed on the final application for payment. After acceptance by the District Engineer and SLVWD, SLVWD will make final payment to the Contractor after deducting all amounts to be retained under the provisions of the Contract Documents.

Notice of Completion: Upon the completion and acceptance of Work, SLVWD will file a Notice of Completion with the County Recorder to begin the 30-day stop notice filing period.

Release of Retention: Not more than 35 days after filing the Notice of Completion, SLVWD will release to the Contractor all retainage, less any deductions to cover pending third party claims against SLVWD.

1.03 SUBSTANTIAL COMPLETION

Substantial Completion includes compliance with the following requirements:

1. The Contractor has substantially completed the construction of all Work in conformance with the Contract Documents, Specifications, and Drawings.
2. The Contractor has installed, adjusted, and successfully tested products, equipment, and systems.
3. The Contractor has provided and completed the following items as approved by the District Engineer.
 - a. Contract Closeout Deliverables.
 - b. Special Warranties.

1.04 PRE-FINAL AND FINAL INSPECTIONS

Pre-final and final inspections are surveys of the Contractor's Work by the District Engineer, SLVWD, and the Design Consultant in order to create the list of incomplete or unsatisfactory items of Work.

Prior to the pre-final and final inspections, the Contractor must complete the following:

1. Clean equipment and fixtures by removing temporary labels, stains, dirt, and other foreign substances.
2. Clean site; sweep paved areas, rake clean unpaved surfaces.
3. Remove waste and surplus materials, rubbish, fencing, equipment, temporary utilities, and construction facilities from the site.
4. Repair all areas damaged during the course of the Contractor performing the Work. Damaged areas shall be repaired to a condition equal to or better than Work was performed.

The discrepancy lists will include all items of Work found to be unsatisfactory, missing, incomplete, damaged, incorrect, or improperly installed or constructed. Prior to Final Acceptance the Contractor shall correct the discrepancy list items by re-work, modification, or replacement, at the option of the District Engineer and at no additional cost to SLVWD. The District Engineer will re-inspect discrepancy list items upon written notice by the Contractor that discrepancy list items are complete.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 CLEANUP

The Contractor shall promptly remove from the Work area and vicinity all rubbish, unused materials, concrete forms, construction equipment, and temporary structures and facilities used during performance of the Work. Final acceptance of the Work by SLVWD will be withheld until the Contractor has satisfactorily complied with the forgoing requirements for final cleanup of the Project site.

END OF SECTION 01700

SECTION 01720 - RECORD DRAWINGS

PART 1 - GENERAL

1.01 SUMMARY

This Section includes requirements for the Contractor to provide record drawings at the completion of Work.

1.02 SUBMITTALS

Submittals shall be made in accordance with Specifications Section 01300, Submittals, and the following special provisions provided herein.

1.03 REQUIREMENTS

The Contractor shall provide the District Engineer neatly and legibly marked Contract Documents and Drawings showing the final location of all components of the Work. Marking of the Drawings shall be kept current and shall be done concurrent with the progress of Work.

Record drawings shall be available to the District Engineer at all times. Final payment by SLVWD shall not be made until the marked up record drawings are delivered to and approved by the District Engineer.

1.04 MAINTENANCE OF DOCUMENTS

A set of the Drawings will be furnished to the Contractor by the District Engineer for the sole purpose of the Contractor generating Record Drawings. The Record Drawings shall be updated by the Contractor with as-constructed record information. The District Engineer will review the accuracy and verify the on-going documentation at a minimum on a monthly basis and in conjunction with the Contractor's partial payment application. The progress and completeness of Record Drawings shall be a pre-condition of the partial payment application approval.

The following shall be maintained in the Contractor's field office in clean, dry, legible condition and shall be considered part of the Record Drawings:

1. Contract Drawings
2. Specifications
3. Addenda
4. Approved Shop Drawings and Submittals
5. Samples
6. Photographs
7. Change Orders
8. Other Modifications of to the Contract
9. Test records
10. Survey data
11. Field Orders
12. All other documents pertinent to Contractor's Work

Documents shall be available at all times for inspection by the District Engineer. Record documents shall not be used for any other purpose and shall not be removed from the Contractor's field office.

The Contractor may submit additional 24-inch x 36-inch sheets detailing record Work as approved by the District Engineer.

The Contractor shall not conceal any Work until the required Record Drawing information has been recorded by the Contractor. The District Engineer may direct the Contractor to expose concealed Work if Work was not recorded on the Record Drawings.

PART 2 - PRODUCTS - (Not Used)

PART 3 - EXECUTION - (Not Used)

END OF SECTION 01720

SECTION 01740 - GUARANTEE AND WARRANTY

PART 1 - GENERAL

1.01 SUMMARY

This Section includes provisions for Contractor's guarantee and warranty for Work performed. Additional provisions may be included in specific specification sections for individual products or materials.

1.02 GUARANTEE AND WARRANTY REQUIREMENTS

The Contractor shall warrant and guarantee that the entire Work constructed under the Contract fully meets all requirements of the Contract, and material furnished by Contractor shall be new and of specified quality, shall be free from defects, shall conform to the Contract Documents, Specifications, and Drawings and will be free from any security interest, lien or other encumbrances.

The Contractor shall further warrant and guarantee that all Work, including materials, articles, and equipment furnished by the Contractor under the Contract, shall be free of deficiencies and defects for the guarantee period of 12 months, unless otherwise specified in specific Specification sections, after the date of the recording of the Notice of Completion, unless otherwise specified in the Contract. Any defective Work corrected during the warranty period shall be similarly warranted for 12 months following its corrections, or for such other period as specified in the Contract.

The Contractor shall further warrant and guarantee to make or have made at Contractor's expense repairs, adjustments, replacements, or other corrective work necessary to restore or bring into full compliance with the requirements of the Specifications or Drawings any part of the Work which during the guarantee period is found to be deficient with respect to any provision of the Specifications or Drawings.

If a defect or deficiency is of a kind which in the opinion of the District Engineer requires immediate correction to avoid injury to SLVWD or adversely impacts SLVWD's operations, SLVWD may make or have made such repairs, adjustments, replacements, or other corrective work and the Contractor agrees to promptly pay SLVWD invoice for the corrective work.

If a defect or deficiency is of a kind which in the opinion of the District Engineer does not require immediate correction but the Contractor has failed to undertake corrective work within 10 work days of receipt of written notice from SLVWD, SLVWD may make or have made such repairs, adjustments, replacements, or other corrective work without waiving any other rights or remedies it may have, at law or otherwise and the Contractor agrees to promptly pay SLVWD invoice for the corrective work.

SLVWD will have the right to use deficient material and equipment after installation until it can be taken out of service without expense to SLVWD.

The guarantees and agreements set forth herein shall be secured by the "Faithful Performance Bond" furnished by the Contractor to SLVWD at the time of execution of the Contract, which bond shall be deemed to continue in effect during the period of guarantee.

The express warranty set forth in the Specifications is exclusive and no other warranties of any kind, whether statutory, oral, written, express or implied, including any implied warranty of merchantability or fitness for a particular purpose, shall apply.

When guarantee and warranty provisions are started in other sections of the Specifications, the more stringent provisions shall govern. This guarantee is not the exclusive remedy for SLVWD in the event of any breach of this Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01740

SECTION 2001 STANDARD SPECIFICATIONS FOR THE INSTALLATION OF WATER FACILITIES

Unless otherwise noted or described, all materials, construction and installation shall conform with the **Latest Edition** of the **San Lorenzo Valley Water District Standard Specifications for the Installation of Water Facilities**.

SECTION 2002 - DEMOLITION, CLEARING, AND RESTORATION

SCOPE OF WORK

- A. Furnish all labor, materials, equipment, facilities, transportation and services to complete all clearing, demolition, recycling, replacement and restoration, and related work as shown on the Plans and/or specified herein.
- B. **Work Included:** All work necessary to move or remove and recycle, when possible, all interfering or objectionable material from the project site. Also included is the protection of landscaping and trees, and the replacement and/or restoration of ground surface, landscaping, and trees damaged during construction.
- C. Cleared trees and other organic debris shall be recycled.

REFERENCE STANDARDS

Clearing and grubbing shall be in accordance with the provisions of Section 16 of the Standard Specifications, except as modified herein.

DEFINITIONS

- A. **Clearing:** Clearing shall consist of cutting, removing, and disposing of trees, shrubs, brush, limbs, and other vegetative growth. Clearing shall also include the removal and disposal of trash piles, rubbish and fencing, and the preservation of trees, shrubs, and vegetative growth which are not designated for removal.
- B. **Grubbing:** Grubbing is the removal and disposal of wood or root matter below the ground surface remaining after clearing.
- C. **Stripping:** Stripping refers to the removal and disposal of all organic sod, topsoil, grass, and grass roots; all evidence of surface improvements and other objectionable material remaining after clearing and grubbing.
- D. **Demolition:** The removal of existing structures, portions of existing structures, equipment, utilities, concrete curbs, sidewalks, and driveways, pipelines and other appurtenances.

QUALITY ASSURANCE

Contractor shall notify the Engineer prior to recycling or disposing of cleared trees and shall provide evidence of proper disposition.

EQUIPMENT

Equipment shall be suitable for the work to be done and shall be in first-class condition. Equipment operators and workmen are to be skilled in such operations and shall be competently supervised.

CLEARING, GRUBBING AND STRIPPING

Clear, grub and strip areas to be excavated or surfaced.

DEMOLITION

Remove existing structures, portions of existing structures, and equipment called for on the Plans and as directed by the Engineer.

PRESERVATION OF PROPERTY

- A. The project area shall be cleared and grubbed only to the extent necessary to accommodate the work in conformance with the notes and details shown on the Plans. Trees or growth shall not be trimmed back unnecessarily. Attention is directed to Section 3.05 of this Section of the Specifications, regarding the protection of trees.
- B. Contractor shall take extreme care not to damage shrubs, trees, fences, irrigation systems and other improvements of adjacent property owners.

- C. All existing improvements not specifically designated on the Plans to be removed or relocated shall remain in their original condition and location undisturbed. However, upon written permission by the Engineer, existing improvements may, for the convenience of the Contractor, and at his expense, be removed and temporarily relocated during construction and shall be replaced in their original location in as good or better condition as when the Contractor entered upon the work site.

PLANT AND TREE PROTECTION

- A. No cutting of any part of SLVWD trees, including roots, shall be done unless indicated on the plans.
- B. No cutting of any part of private trees, including roots, shall be done without approval of the SLVWD Engineer.
- C. Contractor shall tag and identify existing trees which are to remain within the project limits and on the public right-of-way prior to beginning work. Protect all such existing trees at all times from damage by men and equipment. Repair all minor damage to existing trees by using a licensed tree surgeon or other personnel approved by the Project Landscaping Consultant. Remove such trees permanently disfigured or killed, including roots from the site and replace each such tree or trees with equal sized trees if possible, or reimburse the owner the cost if such replacement is not possible. The Project Landscaping Consultant shall be the sole judge of the condition of any tree. Provide regular watering of existing landscaping within the construction area through the construction period.

DEMOLITION OF SURFACE IMPROVEMENTS

- A. Removal of sidewalks, curbs and gutters, driveways, concrete slabs and pavement if necessary shall be in accordance with the provisions of Section 15-3 of the Standard Specifications. Curbs, gutters, sidewalks, driveways, slabs and pavement shall be removed by full depth saw cut to the nearest joint from the lines shown on the Plans or as directed by the Engineer.
- B. Where the Plans indicate pipeline construction under existing asphalt pavement or replacement of existing asphalt pavement, the existing pavement shall be removed and disposed of off-site.

REMOVAL OF DEBRIS

- A. All demolished and cleared material shall become the property of the Contractor and shall be legally disposed of by the Contractor.
- B. Removed concrete shall be legally disposed of off the right-of-way at a location provided by the Contractor. Demolished concrete shall not be buried in structure backfill areas.

SECTION 2003 EARTHWORK AND EMBANKMENT

SCOPE OF WORK

Furnish all labor, materials, equipment, facilities, transportation and services to complete all excavation, backfill, grading and related work as shown on the Plans and/or specified herein.

Work Included: The general extent of all excavation, fill and grading is shown on the Plans and includes, but is not necessarily limited to, the following:

Removal of excess and unsuitable material from the site.

Excavation of material to allow for the placement of underground piping and structures, including any necessary shoring and bracing.

Backfilling of underground piping and structures.

Preparation of subgrade for concrete slab work and pavement.

Finish grading.

DEFINITIONS

- A. **Excavation:** Work shall consist of excavation, storage and any necessary removal of native soil material for structures, cut slopes, foundations, and pavement. Excavation may include the removal and disposal of existing pavement or concrete slab materials.
- B. **Fill:** Soil or soil-rock material placed to raise the existing grade of the site or to backfill excavations.
- C. **On-Site Material:** Material obtained from the project site.
- D. **Import Material:** Material required for earthwork construction in excess of the quantity of suitable material available from required grading, cuts and excavations. Import material may be necessary even though not shown on Plans.
- E. **Select Material:** Material meeting the requirements specified herein.
- F. **Degree of Compaction:** The ratio of the in-place density of constructed fill to the maximum dry density determined by California Test No. 216.
- G. **In-Place Density:** The dry density of constructed fill determined in accordance with the moisture-density gage method, ASTM D2922.

GENERAL BACKFILL

Imported Materials: Imported materials shall be approved by the Engineer prior to use. The Contractor shall submit for review information on all backfill materials to be used on the project giving a description of the source of the material, past uses of the property at the source location, quantity of material and the purpose for which it is intended.

PIPE BEDDING AND INITIAL BACKFILL

Bedding material and initial backfill to a minimum depth of two inches above the top of pipe shall be Class II aggregate base or sand with minimum S.E. of 30.

FOUNDATION MATERIAL

Soil surfaces exposed by excavation for the tank pad shall be compacted to 95 percent relative compaction per ASTM D1557, and have at least six (6) inches of Class II aggregate base.

JOB CONDITIONS

Existing Conditions: The Contractor shall, prior to submitting his bid, visit the site and become familiar with actual site and soil conditions. Soil boring logs are included in the geotechnical investigation. No allowance will be made by the SLVWD for any unfavorable conditions or events which could have been foreseen from a thorough examination of the Contract Documents, the geotechnical report, the site and working conditions.

Protection: If existing live utilities are encountered, they are to be protected from damage and the proper authorities notified. Service shall not be interrupted except as directed or accepted; allow sufficient time for utility companies to arrange for continuation of services. Record unmarked utility locations on Record Drawings. Open excavations, trenches, and the like are to be protected with fences, barricades, covers and railings as required. Every precaution shall be taken to prevent spillage when hauling on or adjacent to any public street or highway. Any spillage shall be promptly removed.

SAFETY

The Contractor is solely responsible for excavation safety, including support to all adjacent improvements.

Excavation shall be in accordance with applicable provisions of the State of California Construction Safety Orders. The Contractor shall, in accordance with the California Labor Code Section 6705, submit a detailed drawing to the Engineer before excavation begins, showing the design of shoring, bracing, sloping or other provisions to be made for worker protection from the hazard of caving ground during any excavation of five (5) or more feet in depth.

Review by the Engineer of the calculations and Drawings or inspection performed by the Engineer will in no way relieve the Contractor for full responsibility for the shoring systems. Prior to applying any loading on the shoring, the Contractor's Engineer shall inspect the installation and certify in writing that the shoring system conforms to the

Drawings and that the material and workmanship are satisfactory. This certification shall be provided to the SLVWD and be available on the project site in accordance with Article 1717 of the Construction Safety Orders, Title 8, California Administrative Code.

If the Contractor presents a drawing which varies from shoring system standards established by the Construction Safety Orders, the drawing shall be prepared and signed by a registered civil or structural engineer licensed by the State of California. Any Engineer's review of said drawings will in no way relieve the Contractor from responsibility and liability for the adequacy of shoring systems and trench excavations.

Trench excavation shall not begin until trench support drawings have been returned by the Engineer.

The Contractor shall pay for and comply with all provisions of the permit required by Section 6500 of the California Occupational Safety and Health Act.

SHORING

All vertical trenches deeper than five (5) feet shall be shored in accordance with this section.

The design of shoring support systems is solely the Contractor's responsibility. Dewatering systems shall be considered in conjunction with the shoring system used.

Shoring systems should be designed to resist the larger of either the earth pressure distribution prescribed by the safety regulations or the lateral pressures indicated in the Geotechnical Report. Traffic loads and surcharge weights, such as stockpiled materials, must also be considered in the shoring design.

Full compensation for doing all work required to brace excavations and for complying with these requirements shall be included in the items of work which require the shoring.

CONTROL OF WATER

Groundwater may be encountered below ground surface.

Prior to the placement of pipe bedding, all utility pipe trenches shall be thoroughly dewatered by the use of sump pumps and dewatering equipment as necessary to safely convey water away from trench excavations to positive draining outlets.

The Contractor shall prevent surface water (e.g. rainwater) and subsurface or groundwater from flowing into excavations and from flooding the project site and surrounding areas.

The Contractor shall remove all water which accumulates in all excavations during the progress of work so that all work can be done in the dry. Excavated areas shall be kept free from water while pipe or structures are constructed, while concrete is setting and until backfill has been placed to a sufficient height to anchor the work against possible floatation.

PREPARATION OF SUBGRADE

Strip surface vegetation, weeds, and at least the top six (6) inches from areas underlying surface structures and areas to be paved. Excavate soft, wet, or otherwise unsuitable base grade to firm, unyielding soil.

EXCAVATION

Contractor shall notify the Engineer of any site condition not reflected on the Plans or in these Specifications, such as conflict in grade, bad soil, or unexpected utility lines. The Engineer will inspect the excavation bottom prior to placing material, and may recommend further excavation and soil replacement if required compaction with existing soil cannot be achieved.

Excavate to the lines, grades and dimensions shown on the Plans. Excavations shall be made to such width outside the lines of the structure to be constructed as may be required for proper working methods, the erection of forms, and the protection of work. Any resulting over-excavation extending beyond the lines, grades, and dimensions shown on the Plans shall be backfilled with material complying with these Specifications at no additional cost to the SLVWD.

Care shall be taken to preserve foundation surfaces in an undisturbed condition, and excavation at or near property lines shall be performed in a manner that minimizes disturbances to adjacent property. Any foundation surfaces disturbed without the Engineer's authorization shall be replaced at the Contractor's expense with compacted gravel fill or other material approved by the Engineer so that by test, the bearing capacity of the replacement material is equal to or better than the undisturbed foundation material.

Existing structures and completed work shall be adequately braced and cared for so that no damage will result.

As directed by the Engineer, soft, spongy, or unsuitable bearing material of any kind shall be removed down to solid bearings and replaced with materials specified herein. Such over-excavations not specifically specified or shown on the Plans will be paid for as extra work. Unauthorized excavations shall be corrected at no cost to the SLVWD.

If previous trenches are encountered, any loose materials shall be excavated, backfilled and re-compacted in accordance with these Specifications.

Excavated material unsuitable for backfill or in excess of the amount required for backfill shall be disposed of by the Contractor off the site at his expense.

FILLING

Prior to the placement of fill, the Engineer shall be notified of the source of materials and their suitability for the particular fill application. Work shall not be backfilled without Engineer's approval. Any work so covered prior to approval shall be uncovered at the Contractor's expense.

All debris, form work, etc. shall be removed from the excavation prior to backfilling.

Pipe shall be supported during the placement and compaction of bedding and backfill.

Fill materials shall be spread in level layers of appropriate thickness for the compaction equipment to be used and moisture content of the material. Each layer shall be compacted as required.

Granular backfill shall be tamped mechanically or manually along the sides of pipes and structures to minimize voids in the material between the pipe or structure and excavation walls. No flooding or jetting shall be used to compact bedding or backfill materials.

Moisture Content: Fill materials shall have the uniform moisture content necessary for compaction to the specified dry density.

Fill shall not be placed during conditions that will alter the moisture content of the fill material sufficiently to make adequate compaction impossible. After placing operations have been stopped due to adverse conditions, no additional fill material shall be placed until the last layer compacted has been checked and found to be compacted to the specified densities.

Tests: Tests are to be made on each layer of fill to assure adequate compaction throughout the entire area. If the dry densities are not satisfactory, the Contractor will be required to re-compact each layer and/or work area as necessary to achieve the specified densities. Compaction testing will be performed in accordance with ASTM D1557.

COMPACTION

Fill materials shall be compacted so that the relative compaction is as follows:

Pipe Bedding	95%
Trench Backfill under Paved Areas	95%
Trench Backfill under Non-Paved Areas	90%
All Other Backfill	90%

GRADING

Contractor shall grade the site to establish finish grades of constructed elements. The remainder of site may be graded as required to match improvements to existing contours with a minimal amount of change.

All ground surfaces shall be finished to uniform grades and slopes as indicated on the Plans so that the ground drains properly and is free from depressions which may cause areas of standing water. Drainage shall be away from foundations and slabs. Clods are to be broken up and the surface of the ground shall be uniformly pulverized and graded to a relatively smooth surface.

Finish grades should be at least one (1) inch below the surface of adjacent walks, curbs, paved areas, etc. without abrupt change in gradient either in the surface of the soil or where the soil meets such features.

At the completion of grading work, the site shall be left in a clean and finished condition.

SECTION 2004 - EROSION CONTROL

SCOPE

Furnish all labor, equipment and materials necessary for site preparation, seeding, hydromulch operations, maintenance and other erosion control operations as shown and specified. To protect against winter rains and potential erosion, seed and mulch by October 1 all disturbed areas as shown on Drawings. Alternative schedules must be approved by the Engineer prior to the commencement of grading operations. The Contractor is responsible for protecting the site and adjacent areas from any erosion caused by construction activities.

INTENT

It is the intent of the drawings and specifications to provide seeding and/or hydromulching of designated areas with plants in vigorous growth ready for Owner's use. Any items not specifically shown in the drawings or called for in the specifications, but normally required to conform with such intent, are to be considered part of the work.

REFERENCE

Erosion control seeding shall conform to Section 20 - Erosion Control and Highway Planting of the Standard Specifications, State of California Department of Transportation, latest edition.

PROTECTION

Contractor shall provide necessary safeguards and shall exercise caution against injury or defacement of any existing site improvement and plantings. Contractor shall be responsible for any damage resulting from his operations and shall repair or replace such damage at his own expense. No trucks or vehicles of any kind shall be allowed to pass over sidewalks, curbs, etc. unless adequate protection is provided.

GRADING AND PREPARATION OF AREA

The Contractor shall be responsible for maintaining finish grades in all work areas and for executing any fine grading as may be necessary or incidental to seeding or hydromulching or repair of work areas. The following operations shall be carried out prior to seeding or hydromulching:

1. Make sure all construction requiring access over work areas is completed before any final planting preparation is started.
2. Clear area of weeds and debris over 2 inches in size.
3. The area to be seeded shall have a firm seedbed that has previously been roughened by scarifying, disking, harrowing, chiseling or track-walking, or otherwise worked to a depth of 2 to 4 inches unless a roughened condition already exists. No implement shall be used that will create an excessive amount of downward movement of soil or clods on sloping areas. The seedbeds may be prepared at the time of completion of earth-moving work.
4. Before seeding, necessary drainage controls such as dikes at tops of slopes and swales on slope benches shall be installed to prevent runoff from eroding slopes before grass is established. Temporary drainage controls

shall remain in place until permanent drainage facilities are installed or until slopes are stabilized and temporary controls are no longer necessary for continued slope stability.

MULCH

Mulch shall be wood cellulose fiber and shall be of such character that it will uniformly disperse into a slurry when mixed with water. The slurry, when hydraulically applied to the ground shall form an absorptive net of mulch uniformly impregnated with seed and other ingredients. No materials which inhibit growth or germination shall be present in the mixture.

WATER

Water shall be of adequate quality to properly promote plant growth.

FERTILIZER

- A. Biosol Mix 7-2-3 at 1000 lbs. / acre (low in Nitrogen, suitable for native plant)
- C. Am 120 – Mycorrhizal Inoculant at 60 lbs./acre

SEED

Seed Mix (70 lbs. per acre),
30 lbs. Festuca rubra ‘Molate’, Molate Fescue
20 lbs. Festuca idahoensis, Native Idaho Fescue
20 lbs. Festuca occidentalis, Western Fescue

STRAW COCONUT BLANKET

Straw coconut blanket should contain 70% of straw and 30% of coconut fiber. It should be free of weed and suitable for application on slope 2:1 and less.

ORGANIC BINDER

Organic binder shall be applied at 100 lbs. per acre.

EQUIPMENT

Equipment for the application shall have a built-in agitation system with an operating capacity sufficient to agitate, suspend and homogeneously mix a slurry of fiber, fertilizer, seed and water. The discharge line shall provide even distribution of the slurry on the slopes to be seeded.

SEEDING METHODS

All areas to receive erosion control seeding as shown on the plan shall be uniformly seeded with hydroseeding.

HYDROSEED OPERATIONS

- A. Mixing:
Mixing shall take place at the site of the work. The hydromulching preparation shall be per manufacturer's directions. Spraying shall commence immediately after the tank is full. The operator shall spray the area with a uniform, visible coat by using color of the wood pulp as a guide.
- B. Application:
 - 1. Prior to application the Contractor shall receive approval of the hydromulch area preparation from the Architect.
 - 2. Evenly spread the mixture of Cellulose Fiber Mulch, recommended seed, organic binder and specified fertilizer. The operator of the hydromulching equipment shall apply the hydromulch in a sweeping motion to form a uniform mat. Care shall be taken to keep the slurry within the designated work area.
 - 3. Install Straw Coconut Blanket (or others depends on slope for expectant lifespan) on top of hydromulch.
 - 4. Slurry mixture which has not been applied within two hours of mixing shall not be used and shall be removed from the site.
 - 5. After application, the Contractor shall not operate any equipment over the area

6. Application Rates:
 - a. Seed – see section 2.04
 - b. Mulch Fiber - 1,800 pounds/acre
 - c. Fertilizer – see section 2.03

CLEAN-UP

Keep all areas of work clean, neat and orderly at all times. Keep all paved areas clean during planting and maintenance operations. Clean up and remove all deleterious materials and debris from the entire work area prior to final acceptance to satisfaction of the Engineer. Remove hydromulch overthrown onto pavement, construction or planting areas not designated to receive hydromulch.

MAINTENANCE, GUARANTEE AND ACCEPTANCE

Maintenance of hydromulching shall consist of watering treatment of all diseases and insect pests, repair of erosion and all incidental work necessary to establish surface coverage and development of root systems adequately, in the opinion of the Engineer, to stabilize slopes and other surfaces in the work area. Initial maintenance shall be continuous until uniform coverage is established over 95% of treated soil areas with no individual bare area in excess of 10 square feet. After germination, any bare areas shall be reseeded at the direction of the Engineer.

SECTION 2005 - ASPHALT CONCRETE PAVING

SCOPE OF WORK

Furnish all labor, materials, equipment, facilities, transportation and services to complete all asphalt concrete paving as shown on the Plans and/or specified herein.

Work Included: The general extent of Asphalt Concrete pavement is shown on the Plans. AC Paving also includes the repair or replacement of existing AC pavement damaged or cut during the course of construction. Pavement to be repaired shall match existing pavement and shall be of the same section.

REFERENCE STANDARDS

The current State of California Department of Transportation (Caltrans) Standard Specifications.

QUALITY ASSURANCE

Upon completion of the work, the job shall be checked to see that all grades fall evenly to drain water as in the pre-existing condition. Care shall be taken that no shallow ponds or bird baths remain.

AGGREGATE BASE

Aggregate base shall conform to the requirements of Class 2 aggregate base (1-1/2 inch maximum) as defined in Section 26 of the Standard Specifications, except that ASTM D1557 shall be used to determine the relative compaction of the aggregate base.

ASPHALT CONCRETE

Asphalt concrete shall conform to the requirements of Standard Specification Section 39. A liquid asphalt prime coat per Standard Specification Section 93 shall be applied to all areas to be surfaced with asphalt concrete. A slurry seal coat complying with Standard Specification Section 37 shall be applied to all AC surfaces.

PAVEMENT REPLACEMENT

Existing pavements, curbs and gutters which are removed or damaged during construction shall be removed from the site and disposed of in a manner and location acceptable to the Engineer. They shall be replaced with the pavement sections specified within. The reconstructed work shall meet the lines and grades indicated; where new grades are not indicated, the existing grade shall be preserved.

SECTION 2006 - CONCRETE STRUCTURES

DESCRIPTION

The Contractor shall furnish all labor, materials, equipment and incidentals necessary for concrete facilities and portions of structures. The work shall include, but not necessarily be limited to, excavating, compacting, forming, placing, and finishing all concrete and all related work.

SUBMITTALS

Submittals in accordance with Section 1.06 shall be required for all materials in this Section.

MATERIALS

Concrete:

Use a minimum of 6 sacks of cement per cubic yard of concrete.

Concrete strength to be 5,000 psi concrete at 28 days.

Special inspection is required for all concrete pours.

Concrete to have a maximum slump of 4 inches.

Water used in mixing concrete shall be clean and free from injurious amounts of oils, acids, alkalis, salts, organic materials, or other substances deleterious to concrete or reinforcement.

Water shall be potable water free of taste or odor.

Maximum water cement ratio to be 0.40.

Maximum air entrainment is 6.0%.

Use type II cement.

Proposed designed mixes to be certified by a California registered civil engineer and submitted to the engineer, at least 7 calendar days prior to first pour.

Frequency of testing. Samples for strength tests for each class of concrete placed each day shall be taken not less than once a day, nor less than once for each 100 cubic yards. Of concrete, nor less than once for each 5000 sq. ft. of surface area for slabs or walls. Ready-mix supplier to keep duplicate test cylinders at its testing laboratory.

Mixing. All concrete shall be mixed until there is a uniform distribution of materials and shall be discharged completely before mixer is recharge.

Mixing. Ready mixed concrete shall be mixed and delivered in accordance with requirements of "Specifications for Ready-Mixed Concrete" (ASTM C 94) or "specification for concrete made by volumetric batching and continuous mixing" (ASTM C 685).

Curing. Concrete shall be maintained above 50 degrees F. And in a moist condition for at least the first 7 days of after placement.

Cold weather requirements. Adequate equipment shall be provided for heating concrete materials and protecting concrete during freezing or near-freezing weather. All concrete materials and all reinforcement, forms, fillers, and ground with which concrete is to come in contact shall be free from frost. Frozen materials or materials containing ice shall not be used.

Hot weather requirements. During hot weather, proper attention shall be given to ingredients, production methods, handling, placing, protection, and curing to prevent excessive concrete temperatures or water evaporation that could

impair required strength or serviceability of the member or structure.

Concrete Admixtures:

Admixtures to be used in concrete shall be subject to prior approval by the engineer.

Water reducing admixtures, retarding admixtures, accelerating admixtures, shall conform to "Specifications for Chemical Admixtures for Concrete" (ASTM C 494) or "specification for chemical admixtures for use in producing flowing concrete" (ASTM C 1017).

Calcium chloride or admixtures containing chloride other than from impurities in admixture ingredients shall not be used.

Fly ash or other pozzolans used as admixtures shall conform to the "Specifications of Fly Ash and Raw or Calcined Natural Pozzolan for Use as A Mineral Admixture in Portland Cement Concrete" (ASTM C 618).

Ground granulated blast-furnace slag used as an admixture shall conform to "Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars" (ASTM C 989).

Admixtures used in concrete containing C 845 expansive cements shall be compatible with the cement and produce on deleterious effects.

Silica fume used as an admixture shall conform to "Specifications for Silica Fume for Use in Hydraulic-Cement Concrete and Mortar" (ASTM C 1240).

Concrete Aggregate:

Maximum aggregate size shall be 3/4 inch.

Aggregate shall be crushed aggregate, not round rock.

Aggregate shall have no Modification, and low shrinkage characteristics.

Concrete aggregates shall conform to "specifications for concrete aggregates" (ASTM c 33).

No alkali-reactive aggregates shall be used.

Reinforcing Steel:

Reinforcing steel shall be deformed bars, ASTM A 615. Use grade 60 for #5 bars and larger. Use grade 40 for #4 bars and smaller.

Embed all reinforcing bars a minimum 24 bars diameters, but in no case less than 12". Lap all reinforcing splices a minimum 40 bars diameters, but in no case less than 24". For top bar embedment and laps increase above lengths 25%.

For reinforcement in which the protective concrete is deposited against the ground, there shall be no less than 3 inches of concrete between the reinforcement and the ground contact surface.

Unless noted, all other main reinforcement shall be protected by 2 inches of concrete cover.

Bolts:

When bolts are in used in concrete-to-steel connections use cut washers between the steel and the bolt head and between the steel and the nut.

Machine bolts and anchor bolts shall conform to ASTM a307.

Epoxied all-thread or anchors to be set with Simpson epoxy.

Bolt designs are as follows unless otherwise noted on drawing:

DIAMETER	BOLT EMB.	RFB EMB	MIN. EDGE DISTANCE	MIN. END DISTANCE
5/8-inch	7"	12"	1 3/4"	5"
3/4"	10"	14"	2 3/4"	5"
7/8-inch	12"	15"	2 3/4"	5"
1"	15"	16"	3"	5"

For epoxy embedded bolts and retro-fit bolts (RFB = all thread), drill hole per Simpson requirements. Provide Simpson "et" adhesive concrete and anchor system. Installed per manufacture's requirements and ICBO Report # 4945.

EXECUTION

Excavation and backfill shall conform to Section 2.03 of these Specifications.

Steel rebar installation shall conform to Section 52 of the CALTRANS Standard Specifications.

All surfaces shall have ordinary finish.

Typical details shall apply where no specific detail or section is given.

Because of site condition, dimensions are approximate. The contractor shall verify all dimensions, elevations and conditions prior to starting construction.

Any discrepancies on the plans or any deviations from the plans, which are necessitated by field conditions or any condition different from these indicated on plan, shall be called to the attention of the engineer and the building department prior to continuing construction.

All dimensions to take precedence over scale shown on plans, elevations, sections and details.

Notes and details on drawings shall take precedence over general notes and typical details.

Contractor is responsible for all temporary bracing during construction.

Contractor shall repair or replace all damaged finish material and structural members as required.

The contractor's work shall conform to all applicable federal, state, and local building codes. The following shall specifically apply to this job: OSHA and Cal OSHA shall govern all platforms, ladders, and safety issues. Code requirements for environmental engineering concrete structures (ACI 350-01) and commentary (ACI 350-01).

Contractor is responsible for dimensions which shall be confirmed and correlated at the job site; fabrication processes and techniques of construction; coordination of his work with that of all other trades; and the satisfactory performance of his work.

The construction contractor agrees that, in accordance with generally accepted practices, construction contractor will be required to assume sole and complete responsibility for job sited conditions during the course of construction of the project, including safety of all persons and property; that this requirement shall be made to apply continuously and not be limited to normal working hours, and construction contractor further agrees to defend, indemnify and hold design professional harmless from any and all liability, real or alleged, in connection with the performance of work on this project, excepting liability arising from the sole negligence of design professional.

Unauthorized changes and uses: the engineer preparing these plans will not be responsible for, or liable for, unauthorized changes to or uses of these plans. All changes to the plans must be in writing and must be approved by the preparer of these plans.

The structural engineering performed by, consulting engineer, is limited to new construction only and its effects, if any, on existing structures. Does not make any judgments or conclusions as to the structural integrity of existing structures.

All changes to the plans or the scope of work of this job shall be done in writing.

SECTION 2007 - PIPING AND FITTINGS

SCOPE OF WORK

Work includes all pipe, fittings, couplings, and other necessary appurtenances as shown, specified, and/or required.

QUALITY ASSURANCE

The Contractor shall furnish all labor necessary to assist the Engineer in inspecting pipe upon delivery. The Contractor shall remove rejected pipe immediately.

All pipe of any manufacturer may be rejected if there are unsatisfactory joint assembly operations, even if the pipe conforms to ASTM Specifications. The Contractor shall remove all unsatisfactory pipe of that manufacturer of same shipment from work and shall furnish pipe from another manufacturer conforming to these Specifications.

All tests shall be made in conformance with methods prescribed by ASTM and AWWA specifications, and acceptance or rejection is based on the test results.

SUBMITTALS

Certification: Manufacturer certification sheets shall be submitted to the Engineer with each delivery that pipe showing compliance reference standard specified herein.

GENERAL PRODUCTS

Materials used in construction shall be as herein specified. When material is not listed specifically herein or on the drawings, the material shall be as approved, in advance, by the Engineer. The Engineer shall be the sole judge as to the acceptability of any and all materials to be used and of the acceptability of manufacturer's specifications, methods and products.

Pipe sizes are nominal inside diameter unless otherwise noted. All sizes shall be as called out on the Plans and specified herein. All pipe and fittings delivered to the job site shall be clearly marked to identify the material, class, thickness, and manufacturer. All material shall be new and free of blemishes.

The Contractor is responsible for furnishing and installing all items necessary to make a complete and workable piping system. These include, but are not limited to, valve boxes, manholes, insulating couplings and gaskets, piping specialties and all other items required by the nature of the installation. Any item not specified herein but required by the nature of the installation shall be of the first quality and equal in grade to similar materials specified herein.

DUCTILE IRON PIPE

All pipe shall be ductile iron pipe. Ductile Iron Pipe shall conform to the requirements of ANSI/AWWA C111/A21.11-90 and ANSI/AWWA C151/A21.51-90 and shall be bituminous seal coating and cement mortar lined in accordance with ANSI/AWWA C104/A21.4-90. Pipe class thickness shall be Class 50 and pipe pressure rating shall be minimum 250. Pipe shall have restrained mechanical EBBA IRON Megalug 1100 or equal.

Any flanged pipe shall be fabricated in the shop and delivered to the site with flanges in place and properly faced. Threaded flanges shall be individually fitted and machine tightened on matching threaded pipe by manufacturer. Manufacturer's certificates showing conformance with AWWA C115 shall be delivered to the Engineer prior to installation.

All buried Ductile Iron Pipe shall be encased in polyethylene conforming to AWWA C105. Tracer wire in accordance with SLVWD Standard shall be installed.

PIPE FITTINGS AND JOINTS FOR DUCTILE IRON PIPE

Push-On fittings for pipe shall be ductile iron or grey iron and shall conform to the requirements of ANSI/AWWA C153/A21.10-87 and C110 and ANSI/AWWA C111/A21.11-90 and shall meet a two hundred fifty (250) psi working pressure.

Flange fittings for pipe shall be ductile iron, faced and drilled, 125-pound flat face or 250-pound raised face conforming to the requirements of ANSI/AWWA C110/A21.10-87 and ANSI B16, 1-89. All fittings shall be cement mortar lined to match the specified pipe.

Push-on joints shall conform to the requirements of ANSI/AWWA C153/A21.10-87 and C111/A21.11-90 and shall meet a two-hundred-fifty (250) psi working pressure.

Flanged joints shall be ductile iron and shall be 125-pound flat face or 250-pound raised face, and threaded, conforming to the requirements of ANSI B16.1 for Class 125 and ANSI B16.1 for Class 250.

Manufacturer's certificates showing conformance with required specifications shall be delivered to the Engineer at least ten (10) days prior to inclusion in the work.

All fittings shall be equipped with restrained mechanical joint EBBA IRON Megalug 1100 or equal.

Flexible couplings and flanged couplings shall have wedge shaped, natural rubber gaskets, and ASTM 316 stainless steel bolts.

Gaskets for flanged joints shall be ring type. The gasket thickness shall be one-sixteenth-inch. Flange assembly bolts shall be stainless steel, hex head machine bolts with heavy hexagonal nuts. Bolt length shall be such that after the joints are made up the bolts shall protrude through the nut not more than ½-inch.

BOLTING

Bolting shall conform to ASTM A193 Grade B8M studs and washers and ASTM A194 Grade 8M hex head nuts (ANSI Type 316 stainless steel).

FUSION EPOXY COATING AND LINING

Valves, hydrant buries, spools, flanged adapters, and other ferrous materials to be installed underground on water mains and not specifically covered under a separate specification shall be coated with a nominal ten (10) mil minimum to twenty (20) mil maximum thickness of fusion epoxy coating prepared from a 100% dry epoxy resin applied by the fluidized bed method or flocking process. Exterior coating materials shall not be applied to valve stems, valve discs or parallel disc seats. External coating materials shall not build up in thickness to interfere with joint assembly or with operation of the valve or fitting being epoxy lined. Fusion Bonded Epoxy coating shall comply with AWWA C550 Standard as applied to ductile iron pipe.

Supplier's certificates showing conformance to this specification shall be delivered to the Engineer prior to installation.

THRUST BLOCKING AND THRUST RESISTANT FITTINGS

Thrust blocks as indicated on the plans to supplement thrust resistant fittings, shall be in accordance with SLVWD Standard Details.

Cement for concrete thrust blocking shall be Portland Cement conforming to the applicable requirements of ASTM Designation C150 for Type V High Early Strength concrete.

Reinforcement for concrete thrust blocking shall be deformed billet-steel bars conforming to the applicable requirements of ASTM Designation A615 for Grade 60 bars.

All exposed reinforcing bars required for thrust blocks shall be epoxy coated or stainless steel bars with equivalent load carrying capabilities as specified for deformed steel bars to the satisfaction of the Engineer.

Contractor shall form thrust blocks to prevent bearing on other underground utilities. Where this is not practical the Contractor shall form an annular space with Styrofoam around other utilities within thrust blocks.

All fittings shall be furnished with mechanical joint thrust resistant fittings, such as restrained mechanical EBBA IRON Megalug 1100 or approved equal. Units shall have epoxy coating per these Technical Provisions.

GENERAL EXECUTION

Pipes, connections, and appurtenant work shall be installed in accordance with these specifications.

Excavation for thrust blocking shall be neat to the lines and dimensions shown or called for on the Drawings.

Existing landscaping, planting, or surface improvements removed, damaged or disturbed due to the installation of water mains, services, or appurtenances shall be replaced in kind to the satisfaction of the SLVWD or Santa Cruz County as appropriate.

CONNECTIONS

Pipe connections shall be made in accordance with applicable standards and manufacturer's recommendations. Non-conducting connections shall be provided wherever joining dissimilar metals.

PIPE INSTALLATION

General: Pipe, valves, fittings, and appurtenances shall be installed in accordance with applicable provisions of AWWA C600-93 (Ductile Iron). Unless otherwise indicated, the pipe shall have a minimum cover of 3.0 feet measured from top of bell to finish grade.

Handling and Storage of Pipe: Broken or damaged pipe, fittings, or appurtenances will be rejected by the Engineer and shall thereupon be removed from the work site and replaced at the Contractor's expense.

Alignment: Each length shall be jointed as specified herein.

Pipe Deflections: The laying of pipe on curved alignment by means of unsymmetrical closure of joints will be permitted only up to eighty percent (80%) of the deflection recommended by the respective pipe manufacturer. Minimum radius for deflected eight-inch (8-inch) ductile iron water mains shall be three hundred feet (300') without the use of short pipe sections. Short pipe sections may be used for other deflections as approved by the Engineer.

Cleaning: Before each new length of pipe is placed, the interior of the preceding pipe shall be carefully cleaned of all dirt and debris. Each pipe shall be maintained free of contaminants and Contractor shall adhere to applicable portions of AWWA C651-92, Section 4 (Disinfection of Water mains) and, if necessary, corrective actions noted therein shall be employed by the Contractor, at his expense, when unsuitable water or debris enters into the new pipeline.

Bearing: Pipe in the trench shall have continuous uniform bearing along its bottom, except at bell holes. Blocking may be used to support the pipe during laying. However, it shall be used only at the end of the section and shall be removed before laying the next section.

Positioning: After final positioning, the pipe shall be held in place in the trench with backfill material placed equally on both sides of the pipe at as many locations as are required to hold the pipe section in place. After joints are completed, the backfill shall be redistributed and compacted as herein required.

Closure: At the end of each day and when work is not in progress, the open ends of pipe and fittings installed in the line shall be closed with watertight plugs or caps to the satisfaction of the Engineer.

Thrust Block: Concrete thrust blocks shall be provided at all changes in horizontal or vertical alignment where, in the opinion of the Engineer, thrust resistant fittings do not provide adequate protection and at such other points as may be called for on the Drawings. Thrust blocks shall be installed in strict conformance with the details shown on SLVWD Standard Details.

CLEANING AND TESTING

Disinfection

Prior to acceptance and before being placed in service, all new water lines shall be chlorinated in accordance with the

requirements of AWWA Standard C651-92. The Contractor shall have the option of applying chlorine to the entire water content of the line, including services, fire hydrants and stubs, in sufficient quantity to produce a residual of at least ten (10) ppm after twenty-four (24) hours retention; or of applying the chlorine to a portion of the water at a higher concentration which is passed through the line as a "slug", at a velocity which will result in a contact period of at least one (1) hour; all as stipulated in the above mentioned AWWA Standard.

1. If the Contractor elects to employ the use of the "Tablet" form of chlorination by mounting HTH into the pipe sections as they are installed, he shall determine the minimum number of tablets per pipe length that will be allowed. In the event that adequate disinfection is not obtained using said minimum number of tablets, it shall be the Contractor's responsibility to re-chlorinate until a satisfactory result is obtained.
2. After chlorination has been completed to the satisfaction of the Engineer the lines shall be thoroughly flushed until the chlorine content in all parts of the system has been proven by test to be less than one (1) part per million (ppm).
3. It shall be the responsibility of the Contractor to dispose of the flushing water in a manner to be approved by the Engineer and to avoid flooding or damage to adjacent properties or facilities.
4. After flushing the chlorine from the water system, the Contractor shall engage the services of an approved Commercial Water Laboratory, designated by the State of California Department of Public Health, to gather an approved number of representative water samples, the location and number of which shall be determined by the Engineer.
5. No section of the water system shall be accepted when any sample of water tests reveal the presence of any coliform bacteria, i.e., MPN shall not exceed zero coliform bacteria per 100 ml sample. Should the laboratory report show that any sample taken contains any coliform bacteria, the installation is not acceptable. Contractor shall rechlorinate and test the water again as hereinbefore specified. This process shall be repeated until a satisfactory result has been obtained.
6. Contractor shall direct the laboratory to send copies of its Report of Bacteriological Examination to the Engineer, within two (2) days following completion of laboratory testing.
7. Chlorinated water shall be treated with a neutralizing agent prior to discharge to the storm drain system. Alternatively, chlorinated water meeting all DHS drinking water standards may be released to the water system upon prior approval of the Engineer.

PRESSURE TESTING

The Contractor shall provide all pumps, fittings, labor, equipment and materials and all assistance necessary for the pressure testing of all pipelines. Pressure testing shall be performed in the presence of the SLVWD. Test pressures shall be a minimum of 150 psi or 150 percent of the service pressure for the pipeline, whichever is greater. At no time shall the test pressure be allowed to exceed the working pressure rating of the weakest pipe, valve, fitting or service on the line to be pressure tested.

Test pressures shall be held for a minimum of 2 hours.

Upon completion of pipeline construction all pipelines and pump suction barrels shall be pressure tested and observed for leaks. The Contractor shall schedule the pressure test with the SLVWD at least 24 hours in advance of the test. The pipelines or pump suction barrels shall be filled and carefully brought to the test pressure. Failure of any portion of the system shall be cause for rejection and the Contractor shall promptly identify and correct the deficiencies causing the failure.

This procedure will be followed until an acceptable test is achieved. The Contractor may be charged for the Engineer's time for reinspection for all tests past the first retest.

Allowable Leakage - The allowable leakage will be calculated by the following formula:

$$La = \{ND \sqrt{P}\}/7,400$$

where: La = Allowable Leakage
N = Number of joints in the pipe run
D = Nominal diameter of the pipe in inches
P = Test pressure

The allowable leakage per 1,000 feet of pipe run at a test pressure of 150 psi for the Class 150 pipelines and 200 psi for the Class 200 pipeline are as follows:

Pipe Size	150 psi gal/hour	200 psi gal/hour
4".....	0.34	0.38
6".....	0.50	0.57
8".....	0.67	0.76
10".....	0.84	0.95
12".....	1.01	1.15
16".....	1.17	1.35

The allowable leakage for differing lengths of pipe runs and higher test pressures will be provided for by direction of the Engineer.

Equipment - The Contractor shall provide a test pump capable of supplying 300 psi static pressure, a means of adding replacement water during the test and gauges and meters to monitor the pressure and replacement water used.

Cleanup: All surplus materials and construction debris remaining upon completion of the Work shall become the property of the Contractor unless otherwise specified herein or noted on the Drawings, and shall be removed from the work site by the Contractor and disposed of off-site in a lawful manner to the satisfaction of the Engineer.

Abandonment

All abandoned pipes within the trench limits shall be removed. Exposed ends of abandoned water pipes shall be filled with a minimum of twelve inches (12") of concrete outside of the trench limits. Other abandoned pipes shall be plugged with a minimum of 12 inches (12") of concrete at both ends outside of the trench limits. Contractor shall remove completely the existing pipes within the trench limit and backfill with structural material to be compacted to ninety-five percent (95%) relative compaction. The Contractor shall restore paved sections in kind in conformance with the Standard Trench Detail.

All water mains that are taken out of service shall be abandoned in place. Open ends of pipes shall be plugged with a minimum of 12 inches (12") of concrete. Valves on abandoned lines shall be closed and the valve box and concrete collar shall be removed. Asphalt concrete shall be cut to neat vertical lines around abandoned valves. The valve shall be covered in Portland Cement Concrete to within four inches (4") of pavement surface. The remaining four inches (4") shall be filled with asphalt concrete one-half inch (½"), maximum gradation, properly placed and compacted. An asphalt crack sealer shall be placed around the joint between existing and new asphalt.

SECTION 2008 – VALVES AND PIPING APPURTENANCES

SCOPE OF WORK

The Contractor shall provide all tools, supplies, materials, equipment, and labor necessary for furnishing, coating, installing, adjusting, and testing of all valves and appurtenant work, complete and operable, in accordance with the requirements of the Contract Documents. The Contractor shall furnish and install valve boxes to grade, with covers, extensions, and position indicators.

The provisions of this Section shall apply to all valves and valve operators specified in these Specifications except where otherwise specified in the Contract Documents.

QUALITY ASSURANCE

Valve Testing: Unless otherwise specified, each valve body shall be tested under a test pressure equal to twice its design water-working pressure in both directions.

Bronze Parts: Unless otherwise specified, all interior bronze parts of valves shall conform to the requirements of ASTM B62, or, where not subject to dezincification, to ASTM B584.

Certification: The Contractor shall submit for all valves certified copies of the hydrostatic factory tests showing compliance with the applicable standards of AWWA, ANSI, ASTM, etc.

SUBMITTALS

Certification: Manufacturer certification sheets shall be submitted to the Engineer with each delivery that pipe showing compliance reference standard specified herein.

MATERIALS

RESILIENT-SEATED GATE VALVES

Interior flanged gate valves larger than 3 inches shall be AWWA C500, wheel actuated, resilient seated, all iron body with bronze trim. All small gate valves of a size less than 3 inches shall be Crane Company #438 low pressure gate valve with wedge disc, rising stem and screwed ends.

CHECK VALVES

The check valves shall be globe style Series 1800 Silent Check Valves manufactured by Val-Matic Valve and Manufacturing Corporation or equal.

AIR RELIEF VALVES

Air relief valve shall be an appropriately sized Apco Model #140C or equal.

FLANGED COUPLING ADAPTORS

Line size flanged coupling adapters with thrust stud restraint shall be as shown on the drawings.

EBBA FLEX TEND

Line size flanged flex tend double ball with thrust stud restraint shall be as shown on the drawings.

VALVE INSTALLATION

All valves, gates, operating units, stem extensions, valve boxes, and accessories shall be installed in accordance with the manufacturer's written instructions and as shown and specified. All gates shall be adequately braced to prevent warpage and bending under the intended use. Valves shall be firmly supported to avoid undue stresses on the pipe.

Butterfly valves shall be installed in such an orientation as to allow the placement of the actuator unit directly above the valve assembly. The actuator displays, controls, and hand crank shall be readily accessible.

TESTING

Valves shall be tested at the same time the adjacent pipeline is tested. Joints shall show no visible leakage under test. Joints that show signs of leakage shall be repaired prior to final acceptance. If there are any special parts of control systems or operators that might be damaged by the pipeline test, they shall be properly protected. The Contractor shall be held responsible for any damage caused by the testing.

SECTION 2009 - MISCELLANEOUS METALS

WORK INCLUDED

This Section includes furnishing and installing miscellaneous metal work as shown on the Drawings and specified in this Section.

REFERENCES

The publications and standards referenced herein form a part of this Specification.

SUBMITTALS

Submittals shall be made in accordance with Specifications Section 01300, Submittals, and the following special provisions provided herein.

Shop Drawings

Before beginning fabrication of miscellaneous metal articles, the Contractor shall submit complete shop and erection drawings showing details of methods, materials, and finishes proposed for use. Shop drawings shall give complete information necessary for the fabrication of the component parts of the articles, including the location, type, and size bolts and welds. They shall clearly distinguish between shop and field bolts and welds.

Test Reports and Certifications

The following documents shall be submitted:

- a. Welding Procedure Specifications (WPS), per AWS D1.1, for welding procedures proposed for use in making production welds.
- b. Welding Procedure Qualification Record (PQR) to support welding procedures proposed for production welds not otherwise prequalified.
- c. Welding Performance Qualification for welders and welding operators to be employed on the Work.
- d. Certified mill test reports for chemistry and mechanical properties.
- e. Manufacturer's certification verifying conformance to these Specifications and that all products in contact with potable water are NSF-approved.

DELIVERY, STORAGE, AND HANDLING

The Contractor shall take reasonable care in the proper handling and storage of articles or materials during erection operations to avoid accumulation of dirt and foreign matter. The Contractor shall remove from the articles or materials, dust, dirt, or other foreign matter that accumulates during construction. Coated surfaces shall be protected from abrasion or other damage during handling, storing, and erecting.

Materials taken from stock by the Contractor shall be of a quality at least equal to that required by the ASTM specifications applicable to the classification covering the intended use and shall be supported by test reports prepared at the mill where the material was manufactured or at a testing laboratory approved by the District Engineer.

MATERIALS

Carbon Steel

Structural shapes shall be in accordance with ASTM A36.

Bars and shapes shall be in accordance with ASTM A36 or ASTM A108 Grade 1018.

Plate 2 inches and less in thickness shall be in accordance with ASTM A36 or ASTM A283 Grade C or Grade D.

Stainless Steel

All welded stainless steel materials shall be pickled and passivated after fabrication in accordance with the requirements of ASTM A380. The Contractor shall use Avesta, or equal, pickling and passivating solution, for fieldwork.

Unless otherwise shown on the Drawings, materials in contact with water, intermittently or continuously, or in

a wet or moist environment shall be stainless steel, Type 316 or 316L, where welding is required.

Stainless steel bars and shapes shall be in accordance with ASTM A276, Type 316 or Type 316L where welding is required, unless otherwise specified or shown on the Drawings.

Stainless steel plate, sheet, and strip shall be in accordance with ASTM A167, Type 316 or Type 316L where welding is required, unless otherwise specified or shown on the Drawings.

Rolled stainless steel shapes shall be in accordance with the requirements of ASTM A479, Type 316, or 316L where welding is required, heat treatment waived, unless otherwise specified or shown.

Stainless steel pipe shall be in accordance with ASTM A312, Type 316L.

Stainless steel tubing shall be in accordance with ASTM A554, Type MT316L.

Where shown on the Drawings, age-hardened stainless steel shall be in accordance with ASTM A564, Type 630, cold finished. Heat-treatment or age hardening shall be conducted at 900°F.

Stainless steel wire cloth shall conform to the requirements of ASTM E2016, Type 316.

Aluminum

Plate and sheet shall be in accordance with ASTM B209, Alloy No. 5052 H32.

Fasteners

Threads for bolts and nuts shall be in accordance with ANSI B1.1.

- a. Threads for bolts 1-inch and less in diameter shall be coarse-thread series and threads for bolts 1 1/8-inch and greater in diameter shall be the 8-pitch thread series.
- b. The fit shall be Class 2 free fit; except that Class 3 medium fit shall be provided in holes tapped for studs.

Unless otherwise shown on the Drawings, bolts shall have heavy hexagon heads and heavy hexagon nuts.

The lengths of studs and bolts, excluding anchor bolts, shall provide a projection of not less than 1/4-inch nor more than 1/2-inch through the nut when it is drawn tight; however, in exposed locations the projection shall be not more than 1/4-inch.

Carbon Steel Nuts and Bolts

- a. Carbon steel bolts, anchor bolts, and U-bolts, not in contact with water shall be in accordance with ASTM A307, Grade A.
- b. Carbon steel nuts not in contact with water shall be in accordance with ASTM A563.
- c. Steel washers shall be in accordance with ASTM F436.
- d. Carbon steel bolts greater than 1-inch in diameter shall be the 8-pitch thread series and shall be ferritic steel in accordance with ASTM A193, Grade B7. Accompanying nuts shall be in accordance with ASTM A194, Grade 2H.

Stainless Steel Fasteners

Except as otherwise specified or shown on the Drawings, stainless steel fasteners shall be used where the material will be immersed in water, intermittently or continuously, or in moist-environment installations. ASTM A193, Grade B8MA or Grade B8MNA for bolting and stud material, and ASTM A194, Grade 8MA or Grade 8MNA for nuts. Fasteners for age-hardened stainless steel shall be manufactured in accordance with ASTM F593 and F594, Type 630.

Stainless steel washers shall conform to ASTM F436 except that they shall be punched from steel conforming to ASTM 167, Type 316 or machined from bar stock conforming to ASTM A276, Type 316.

Stainless steel studs, bolts, nuts, and washers shall be stamped indicating the type of stainless steel.

Welding Rods

Welding rods for welding carbon steel shall be E70XX low-hydrogen, in accordance with AWS A5.1 or A5.17 for welding carbon steel

Electrodes for welding stainless steel shall be Type E316L in accordance with AWS A5.4 or AWS A5.9

Electrodes for welding stainless steel to carbon steel shall be Classification Number E309L or E312 in accordance with AWS A5.4 or A5.9.

Electrodes for welding aluminum shall be filler alloy 5356 in accordance with AWS A5.10.

Concrete Anchors

Concrete anchors shall be in accordance with Specifications Section 03250, Concrete Anchors.

Anti-Galling Compound

The anti-galling compound to be used on threads of stainless steel fastener assemblies shall be a compound certified by ANSI/NSF or EPA, for use in potable water systems.

Acceptable Products:

- a. Ramco TRX-Synlube, Ramco Anti-Seize
- b. Husk-It, Husky Lube-O-Seal
- c. Or approved equal.

FABRICATION OF MISCELLANEOUS METALWORK

The Contractor shall take the necessary precautions as described in ASTM A143 and ASTM A384 during fabrication of articles to be galvanized, to properly fabricate and prepare the material to prevent embrittlement, warpage, and distortion.

Violation of the provisions of this paragraph will be sufficient cause for rejection of Work.

Steel tubing with cover plates welded at both ends or other enclosed assemblies shall have vent and drain holes drilled at locations on the assembly approved by the District Engineer. The holes shall be drilled during fabrication and before galvanizing.

All edges, corners, and welds shall be struck and deburred.

FABRICATION - WELDING OF CARBON STEEL

Except for the modifications set forth in this Section, the welding of structures or articles fabricated from carbon steel shall be in accordance with the AISC Manual of Steel Construction and AWS D1.1 as referenced therein.

Electroslag and electrogas welding procedures will not be permitted.

Allowable unit stresses for base metals and for effective areas of weld metal for application to structures shall be as shown in the AISC Manual of Steel Construction.

Joints to be welded by automatic machines shall be abrasive-blasted to white metal in accordance with SSPC-SP5.

Electrodes for shielded metal arc welding (SMAW) shall not be larger than 1/4-inch for shop welding and not larger than 3/16-inch for field welding.

The depth of each pass shall not exceed 1/8-inch for manual welding, and the weld puddle width shall not exceed three times the electrode diameter or 3/8- inch, whichever is less.

Welding of pipe or tubing shall be in accordance with the recommendations of AWS D10.12.

Runoff tabs shall be removed by hand flame-cutting or other means as close to the edge or the finished member as practical, followed by grinding to a smooth surface contiguous with the adjacent metal.

FABRICATION-WELDING OF STAINLESS STEEL

Welding of structures or articles fabricated from stainless steel shall be in accordance with the following:

Welding on austenitic stainless steel shall be performed by the shielded metal arc process using direct current.

AWS A5.4 Classification Number E316L. Electrodes for welding stainless steel to carbon steel shall be Classification Number E309L or E312 electrodes.

Weld procedures shall be qualified in accordance with AWS B2.1.

Welding of stainless pipe or tubing shall be in accordance with the recommended practices of AWS D10.4.

Stainless steel to carbon steel welds performed in the field will not require stress- relieving heat treatment provided the inter-pass temperature does not exceed 350°F.

Stress-relieving of austenitic stainless steel where deemed necessary by District Engineer, shall be performed at 750°F for 4 hours, plus an additional 30 minutes for each additional inch over 1/2-inch weld section thickness, or a full solution anneal at 1900°F shall be performed with rapid quench.

Stainless steel welds shall be deburred and ground smooth using grinding wheels of aluminum oxide. Carborundum or other carbon bearing wheels are not acceptable for use on stainless steel surfaces. Wire brushing of stainless steel surfaces shall be performed only with stainless steel brushes. Grind wheels and brushes used to clean stainless steel shall not have been used on carbon steel surfaces.

After shop fabrication stainless steel shall be cleaned, descaled, and passivated in accordance with ASTM A380.

SHOP FINISHES

Galvanizing

Galvanizing shall have an average weight per square foot of 2.0 ounces and not less than 1.8 ounces per square foot.

Except where otherwise specified, galvanizing shall be performed after fabrication, including cutting, punching, welding, and drilling, has been completed.

Prior to galvanizing, items shall be cleaned by abrasive blasting to white metal in accordance with SSPC-SP5.

Weld flux residue, weld splatter, and minor weld defects not removed by the abrasive blasting shall be removed by mechanical means.

After abrasive blasting and mechanical cleaning, items shall be fluxed and immediately hot dipped. Galvanizing shall be done in the largest possible subassemblies consistent with the appearance of the completed item and with the prevention of warpage of the product.

Where galvanized light-gauge sheet goods are specified, upset edges of factory die-punched holes need not have the bare edges re-galvanized and the galvanized coating adjacent to such die-punched edges need not be repaired.

Aluminum:

Aluminum shall be coated in accordance with Specification Section 09900, Painting and Coating Systems.

Where specified, aluminum materials shall receive a hard anodized finish after all fabrication work (holes, bends, etc.) has been completed.

INSTALLATION

Installation and anchorage details for items of miscellaneous metal shall be as shown on the Drawings. Details not shown shall be developed by the Contractor and indicated on the submittal shop drawings.

Anti-galling compound shall be used each time stainless steel fasteners are assembled or reassembled and shall be applied in the fastener threads in accordance with the manufacturer's printed recommendations.

REPAIR OF GALVANIZED SURFACES

Areas of galvanizing damaged during fabrication, shipping, erection, or any other time prior to acceptance of the Work shall be prepared and recoated by one of the following methods:

Parts damaged in the shop shall be removed from the site, stripped of existing coating, cleaned, and re-galvanized in accordance with ASTM A123 or A153 as applicable.

Field or shop repair areas shall be cleaned and recoated with a 2.0 mil coating of zinc alloy using meltable zinc-based alloy bars (hot bar process).

The damaged area shall be thoroughly cleaned using a wire brush, a light grinding action or mild abrasive blasting. The cleaning shall extend beyond the damaged area to lap the undamaged galvanized coating at least ½-inch.

Weld flux residue, and weld splatter of a size or type that cannot be removed by blast cleaning shall be removed by chipping, scaling or other mechanical means.

The cleaned preheated area shall be rubbed with the repair alloy stick to deposit an evenly distributed layer of the zinc alloy.

The repaired area shall be wiped with a damp cloth to remove flux residue.

Dry-film thickness shall be verified using a magnetic or electromagnetic- type gauge, in accordance with ASTM D1186.

Shop or field-damaged areas shall be cleaned and recoated with a 4.0 mil minimum coating of zinc, using sprayed zinc (metalizing process).

Zinc wire used in repair shall contain not less than 99.98% zinc.

The surface to be repaired shall be blast cleaned to white metal in accordance with SSPC-SP5. The area to be blast cleaned shall extend at least ½-inch onto the surrounding sound coating area.

Weld flux residue and weld splatter of a size or type that cannot be removed by blast cleaning shall be removed by chipping, scaling, or other mechanical means.

Sprayed coating shall be applied within 2 hours after surface preparation has been completed and before any visible deterioration (flash-rust) has occurred.

The coating shall be applied to the clean and dry surface by metal spraying pistols fed with zinc wire or zinc powder.

The surface of the sprayed zinc shall be of uniform texture, free of lumps, coarse areas, and loosely adhered

particles.

Dry film thickness shall be verified using a magnetic or electromagnetic- type, gauge, in accordance with ASTM D1186.

In the field, for areas where the hot bar or metalizing process methods cannot be used, and with the permission of the District Engineer, the damaged areas shall be repaired with multiple coats of an approved coating such as Rustoleum Zinc Rich Cold Galvanizing Aerosol; CRC Zinc-It; Spray-on #740 zinc-rich; Sherwin Williams #140 Zinc-Rich; or equal.

The damaged area shall be cleaned and recoated with an organic zinc- rich paint to a minimum dry film thickness (DFT) of 6.0-mil, applied in two coats.

The surface to be repaired shall be blast cleaned to white metal in accordance with SSPC-SP5. The area to be blast cleaned shall extend at least ½-inch onto the surrounding sound coating area.

In areas where abrasive blasting cannot be used or cannot effectively clean the required area, power disk sanding or other cleaning methods shall be used, subject to the approval of the District Engineer.

Apply paint containing zinc dust to the prepared area as recommended by the paint manufacturer.

Dry film thickness shall be verified using a magnetic or electromagnetic- type gauge, in accordance with ASTM D1186.

ATTACHMENTS (bound separately)

Project Drawings