



MORRO BAY
NATIONAL ESTUARY PROGRAM

MORRO BAY NATIONAL ESTUARY PROGRAM

**SPECIFICATIONS FOR
CHORRO CREEK ECOLOGICAL RESERVE FLOODPLAIN RESTORATION**

March 27, 2019

PREPARED BY:

Environmental Science Associates

550 Kearny Street, Suite 800

San Francisco, CA 94108

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SECTION 00 01 03
KEY CONTACTS AND DETAILS

PART 1 – GENERAL

1.01 SUMMARY

- A. This section describes key contacts and information for the project

1.02 CONTACT

- A. Communications for bid-related inquiries shall be made to:

1. Carolyn Geraghty
Tel: 805-772-3834 extension 12
Fax: 805-772-4162
Email: cgeraghty@mbnep.org

1.03 WEBSITE

- A. Bid documents and Addenda can be found online at:
1. www.mbnep.org/ccerbid

***** END OF SECTION *****

SECTION 00 01 07

SEALS PAGE

CERTIFICATION

NAME OF PROJECT: CHORRO CREEK ECOLOGICAL RESERVE FLOODPLAIN
RESTORATION

PREPARED BY:

Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

Signed: 

Date: March 21, 2019

Typed Name: Scott Stoller

Title: Professional Engineer

Certification:

The specifications and other contract documents for “Chorro Creek Ecological Reserve Floodplain Restoration Project” have been prepared under the direction of Scott Stoller, PE, licensed in the State of California.



SECTION 00 01 15

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**MORRO BAY NATIONAL ESTUARY PROGRAM
MORRO BAY, CALIFORNIA
CHORRO CREEK ECOLOGICAL RESERVE FLOODPLAIN RESTORATION**

ADVERTISEMENT FOR BIDS

Bids for the construction of the **CHORRO CREEK ECOLOGICAL RESERVE FLOODPLAIN RESTORATION** will be received by **Morro Bay National Estuary Program**, via email to Carolyn Geraghty at **cgeraghty@mbnep.org** until **5pm** local time on **April 30, 2019**, at which time the Bids received will be privately read. The Project consists of **grading over 1,000 linear feet of side channel and floodplain, grading over 1,000 linear feet of floodplain adjacent to an existing side channel, improving an at-grade crossing, improving side channel connections to the main stem and applying erosion control and seeding to all disturbed areas.**

Separate Bids will be received for Contract No. 1 – General Construction including the elements described above; Contract No. 2 – Revegetation and plant maintenance has been contracted separately. Bids shall be on a lump sum for Contract No. 1. Contractor coordination will be required with the revegetation contractor on several bid items as described in the construction documents.

This project is subject to compliance monitoring and enforcement of prevailing wage requirements by the California Department of Industrial Relations (DIR).

The Issuing Office for the Bidding Documents is: **Morro Bay National Estuary Program, 601 Embarcadero #11, Morro Bay, CA.** Contact is **Carolyn Geraghty – (805) 772-3834 extension 12 or cgeraghty@mbnep.org**. Complete sets of Bidding Documents can be downloaded online at **mbnep.org/ccerbid**. Neither Owner nor Engineer will be responsible for full or partial sets of Bidding Documents, including Addenda if any, obtained from sources other than the Issuing Office.

A pre-bid conference will be held at **1pm** local time on Monday, **April 15, 2019** at the **Project Site as shown on the drawings. Meeting location is the gate at Gilardi Road's intersection with Highway 1 in San Luis Obispo.** Attendance at the pre-bid conference is mandatory.

Bid security shall be furnished in accordance with the Instructions to Bidders.

Bids will be accepted only from Bidders who meet minimum qualifications by the Owner. Bidders shall submit proof of qualifications to perform the Work as described in the Instructions to Bidders. Prevailing wages are required for this project.

Contractors must meet and demonstrate the following minimum qualifications in order for their bid to be acceptable for the project:

1. Contractor must provide project information and project owner references for a minimum of 3 projects within the past 8 years that included restoration in a riparian (river or stream) environment. At least one project example must include each of the following:
 - a. Grading of a stream bank and/or channel, and installation of erosion control fabric, and other Best Management Practices (BMPs) for erosion control protection.
 - b. Flow diversion/Dewatering of active work zone in streams/rivers to facilitate in-channel work while protecting resident aquatic species.
 - c. Construction of in-stream habitat enhancement features such as Large Wood Structures (LWS) or grade control structures. Note that construction of culverts, bridges, or other such infrastructure will not be considered sufficient.
2. Contractor may demonstrate the above experience by self-performance or may use a subcontractor who has the minimum experience.

Any bid that is received without demonstration of the above minimum experience will be disqualified.

Owner: **Morro Bay National Estuary Program**

By: **Carolyn Geraghty**

Title: **Restoration Projects Manager**

Date: **March 27, 2019**

+ + END OF ADVERTISEMENT FOR BIDS + +

SECTION 00 21 15
INSTRUCTIONS TO BIDDERS
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ARTICLE 1 – DEFINED TERMS

- 1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:
- A. *Issuing Office* – The office from which the Bidding Documents are to be issued.
 - B. *Geotechnical Data Report (GDR)* — The factual report that collects and presents data regarding actual subsurface conditions at or adjacent to the Site, including Technical Data and other geotechnical data, prepared by or for Owner in support of the Geotechnical Baseline Report. The GDR's content may include logs of borings, trenches, and other site investigations, recorded measurements of subsurface water levels, the results of field and laboratory testing, and descriptions of the investigative and testing programs. The GDR does not include an interpretation of the data. If opinions, or interpretive or speculative non-factual comments or statements appear in a document that is labeled a GDR, such opinions, comments, or statements are not operative parts of the GDR and do not have contractual standing. Subject to that exception, the GDR is a Contract Document.

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

- 2.01 Complete sets of the Bidding Documents can be obtained from the Issuing Office's website at mbnep.org/ccerbid.
- 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 authorize or confer a license for any other use.

ARTICLE 3 – QUALIFICATIONS OF BIDDERS

- 3.01 To demonstrate Bidder's qualifications to perform the Work, Bidder shall submit with its bid (a) written evidence establishing its qualifications such as financial data, previous experience, and present commitments, and (b) the following additional information:
- A. Evidence of Bidder's authority to do business in the state where the Project is located.
 - B. Bidder's state or other contractor license number, if applicable.
 - C. Other required information regarding qualifications requested in Section 00 45 15 Qualifications Statement.
- 3.02 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.
- 3.03 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.
- 3.04 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

- 3.05 This is a prevailing wage job and Contractor will need to submit documentation of prevailing wages with payment applications.

ARTICLE 4 – SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER’S SAFETY PROGRAM; OTHER WORK AT THE SITE

4.01 *Site and Other Areas*

- A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

4.02 *Existing Site Conditions*

- A. Subsurface and Physical Conditions; Hazardous Environmental Conditions

1. The Supplementary Conditions identify:
 - a. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site.
2. Owner will make copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, as provided in the General Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.
3. Not used. Geotechnical Baseline Report: The Bidding Documents contain a Geotechnical Baseline Report (GBR). The GBR describes certain select subsurface conditions that are anticipated to be encountered by Contractor during construction in specified locations (“Baseline Conditions”). The GBR is a Contract Document.

The Baseline Conditions in the GBR are intended to reduce uncertainty and the degree of contingency in submitted Bids. However, Bidders cannot rely solely on the Baseline Conditions. Bids should be based on a comprehensive approach that includes an independent review and analysis of the GBR, all other Contract Documents, Technical Data, other available information, and observable surface conditions. Not all potential subsurface conditions are baselined.

Nothing in the GBR is intended to relieve Bidders of the responsibility to make their own determinations regarding construction costs, bidding strategies, and Bid prices, nor of the responsibility to select and be responsible for the means, methods, techniques, sequences, and procedures of construction, and for safety precautions and programs incident thereto.

- B. Underground Facilities: Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or adjacent to the Site are set forth in the Contract Documents and are based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.

- C. Adequacy of Data: 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 subsurface or physical conditions appear in Paragraphs 5.03, 5.04, and 5.05 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 5.06 of the General Conditions.

4.03 *Site Visit and Testing by Bidders*

- A. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.
- B. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, regulatory restrictions, security or safety concerns, or restraints on Owner's authority regarding the Site.
- C. Bidder shall comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.
- D. 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.

4.04 *Other Work at the Site*

- A. Reference is made to Article 8 of the General Conditions for the identification of the general nature of other work of which Owner is aware (if any) that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents. If Owner is party to a written contract for such other work, then on request, Owner will provide to each Bidder access to examine such contracts (other than portions thereof related to price and other confidential matters), if any.

ARTICLE 5 – BIDDER'S REPRESENTATIONS

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

- A. examine and carefully study the Bidding Documents, and any data and reference items identified in the Bidding Documents;
- B. visit the Site, conduct a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfy itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;

- C. become familiar with and satisfy itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work;
- D. carefully study all reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.
- E. consider the information known to Bidder itself; 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; and (3) Bidder's safety precautions and programs;
- F. agree, based on the information and observations referred to in the preceding paragraph, that at the time of submitting its Bid 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 bid and within the times required, 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. 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;
- I. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work; and
- J. agree that the submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 6 – PRE-BID CONFERENCE

- 6.01 A pre-Bid conference will be held at the time and location stated in the invitation or advertisement to bid. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are required to attend and participate in the conference. Failure to record attendance at the pre-Bid conference will result in the disqualification of the Bid. 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.

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 delivered to all parties recorded as having received the Bidding Documents. Questions received less than seven business days (by April 22, 2019) 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, supplement, or change the Bidding Documents.

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 total Bid price and in the form of a certified check, bank money order, or a Bid bond (on the form included in the Bidding Documents) issued by a surety meeting the requirements of Paragraphs 6.01 and 6.02 of the General Conditions.

8.02 The Bid security of the apparent Successful Bidder will be retained until Owner awards the contract to such Bidder, and 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 released. 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 consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults.

8.03 The Bid security of other Bidders that 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 Contract or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.

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

ARTICLE 9 – CONTRACT TIMES

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

ARTICLE 10 – LIQUIDATED DAMAGES

10.01 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

ARTICLE 11 – SUBSTITUTE AND "OR-EQUAL" ITEMS

11.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and Contract award process of possible substitute or "or-equal" items. In cases in which the Contract allows the Contractor to request that Engineer authorize the use of a substitute or "or-equal" item of material or equipment, application for such acceptance may not be made to and will not be considered by Engineer until after the Effective Date of the Contract.

- 11.02 All prices that Bidder sets forth in its Bid shall be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of “or-equal” or substitution requests are made at Bidder’s sole risk.

ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS, AND OTHERS

- 12.01 A Bidder shall be prepared to retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of the Work if required by the Bidding Documents (most commonly in the Specifications) to do so. If a prospective Bidder objects to retaining any such Subcontractor, Supplier, or other individual or entity, and the concern is not relieved by an Addendum, then the prospective Bidder should refrain from submitting a Bid.
- 12.02 Subsequent to the submittal of the Bid, Owner may not require the Successful Bidder or Contractor to retain any Subcontractor, Supplier, or other individual or entity against which Contractor has reasonable objection.
- 12.03 All bidders shall submit to Owner a list of proposed subcontractors and Suppliers along with their Bid.

If requested by Owner, 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, or other individual or entity. 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 an acceptable substitute, in which case apparent Successful Bidder shall submit a substitute, Bidder’s Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.

- 12.04 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to another Bidder that proposes to use acceptable Subcontractors, Suppliers, or other individuals or entities. Declining to make requested substitutions will 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 subsequent revocation of such acceptance as provided in Paragraph 7.06 of the General Conditions.

ARTICLE 13 – PREPARATION OF BID

- 13.01 The Bid Form is included with the Bidding Documents.
- A. All blanks on the Bid Form shall be completed in ink and the Bid Form 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, alternate, adjustment unit price item, and unit price item listed therein.
 - B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words “No Bid” or “Not Applicable.”
- 13.02 A Bid by a corporation shall be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation shall be shown.

- 13.03 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 partnership's address for receiving notices shall be shown.
- 13.04 A Bid by a limited liability company shall be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the firm's address for receiving notices shall be shown.
- 13.05 A Bid by an individual shall show the Bidder's name and address for receiving notices.
- 13.06 A Bid by a joint venture shall be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The joint venture's address for receiving notices shall be shown.
- 13.07 All names shall be printed in ink below the signatures.
- 13.08 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 13.09 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.
- 13.10 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.

ARTICLE 14 – BASIS OF BID

14.01 *Lump Sum and Unit Price Items*

- A. Bidders shall submit a Bid on a lump sum basis and unit prices for items as set forth in the Bid Form.

14.02 *Unit Price*

- A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.
- B. The "Bid Price" (sometimes referred to as the extended price) for each unit price Bid item will be the product of the "Estimated Quantity" (which Owner or its representative has set forth in the Bid Form) for the item and the corresponding "Bid Unit Price" offered by the Bidder. The total of all unit price Bid items will be the sum of these "Bid Prices"; such total will be used by Owner for Bid comparison purposes. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 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.

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, if required, the Bid Bond Form. The unbound copy of the Bid Form is to be

completed and submitted with the Bid security and the other documents required to be submitted under the terms of Article 7 of the Bid Form.

- 15.02 A Bid shall be received via email no later than the date and time prescribed in the advertisement or invitation to bid. The email shall be 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. Bids shall be addressed to **Carolyn Geraghty** at **cgeraghty@mbnep.org**.
- 15.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

ARTICLE 16 – MODIFICATION AND WITHDRAWAL OF BID

- 16.01 A Bid may be withdrawn by an appropriate document duly executed in the same 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. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.
- 16.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 16.01 and submit a new Bid prior to the date and time for the opening of Bids.
- 16.03 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, that Bidder will be disqualified from further bidding on the Work.

ARTICLE 17 – OPENING OF BIDS

- 17.01 Bids will be opened privately.

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, in 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 will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible. If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, then the Owner will reject the Bid as nonresponsive; provided that Owner also reserves the right to waive all minor informalities not involving price, time, or changes in the Work.
- 19.02 Evaluation of Bids
- A. Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or

Suppliers, including interviews with Bidders. The Owner will award the contract to the most responsible, qualified, and cost effective bid, using the proposal evaluation and selection criteria.

B. In evaluating Bids, Owner and review committee will evaluate the following criteria for selection of the contract. Selection Criteria:

Criteria	Points
1. Bids will be compared on the basis of the total estimated costs for all bid items. Lower bids will be ranked higher.	75
2. Past performance and related experience of firm in implementing similar projects (e.g., results of reference checks, ability to provide deliverables in a timely fashion and with high quality, ability to follow environmental protections). Past experience working successfully with California Conservation Corps or similar entities to implement projects.	15
3. Understanding of project documents (e.g., completeness of proposal, demonstrated grasp of work to be completed under this contract, expressed understanding of the project scope, objectives, and complexity).	10
3. Expertise of team members assigned to the project (e.g., team qualifications, knowledge of local watershed and hydrology).	5
Total	100

ARTICLE 20 – BONDS AND INSURANCE

20.01 Article 6 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 Agreement (executed by Successful Bidder) to Owner, it shall be accompanied by required bonds and insurance documentation.

ARTICLE 21 – SIGNING OF AGREEMENT

21.01 When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within 14 days thereafter, Successful Bidder shall execute and deliver the required number of counterparts of the Agreement (and any bonds and insurance documentation required to be delivered by the Contract Documents) to Owner. Within 15 days thereafter, Owner shall deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

ARTICLE 22 – SALES AND USE TAXES- NOT USED

SECTION 00 41 43

BID FORM

Chorro Creek Ecological Reserve Floodplain Restoration

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ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

Morro Bay National Estuary Program (MBNEP)

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 60 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

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

<u>Addendum No.</u>	<u>Addendum, Date</u>
_____	_____
_____	_____
_____	_____
_____	_____

B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and has satisfied itself as to all 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 adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

E. Bidder has considered the information known to Bidder itself; 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 any 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; and (3) Bidder's safety precautions and programs.
- F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
 - G. Bidder 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 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 confirms that 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 and furnishing of the Work.
 - J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies 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 collusive 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 (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

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

Item No.	Description	Unit	Estimated Quantity	Bid Price
1	MOBILIZATION/ DEMOBILIZATION	LS	1	
2	CLEARING, GRUBBING AND MINOR DEMOLITION	LS	1	
3	TEMPORARY DIVERSION/CROSSING	LS	1	
4	SWPPP PLAN AND COMPLIANCE	LS	1	
5	DEMO AND OFFHAUL CONCRETE DEBRIS	LS	1	
6	EXCAVATION AND ONSITE DISPOSAL	LS	1	
7	TOPSOIL SALVAGE AND PLACEMENT	LS	1	
8	CLASS 2 AGGREGATE BASE	LS	1	
9	200-LB STONE	LS	1	
10	PLANTED COBBLE TRANSITION (NOTE 1)	LS	1	
11	HABITAT LARGE WOOD STRUCTURE (NOTE 1)	LS	1	
12	LOW PROFILE WOOD STRUCTURE (NOTE 1)	LS	1	
13	WILLOW BAFFLE (NOTE 1)	LS	1	
14	BRUSH MAT (NOTE 1)	LS	1	
15	EROSION CONTROL FABRICS	LS	1	
16	FIBER ROLLS	LS	1	
17	RIPARIAN SEEDING	LS	1	
18	UPLAND SEEDING	LS	1	
19	WESTERN WELL DECOMMISSIONING	LS	1	
20	FIELD ENGINEERING	LS	1	
Total Bid Price				\$

Note 1: Work for these items is to be carried out in conjunction with revegetation contractor. See construction documents for details.

Reference the Measurement and Payment section (01 21 10) before bidding. Please use these quantities for the following bid items:

Item No.	Description	Estimate for Bidding
8	CLASS 2 AGGREGATE BASE	Contractor shall assume the minimum quantity required is 200 tons.
9	200-LB STONE	Contractor shall assume the minimum quantity required is 140 tons.
10	PLANTED COBBLE TRANSITION (NOTE 1)	Contractor shall assume the minimum quantity of imported cobble is 100 tons.
15	EROSION CONTROL FABRICS	Contractor shall assume a minimum of 4,600 square yard (SY) of fabric will be installed.
16	FIBER ROLLS	Contractor shall assume a minimum of 18,600 linear foot (LF) of fiber roll shall be installed.
17	RIPARIAN SEEDING	Contractor shall assume a minimum of 2.2 acres of riparian seed mix shall be installed.
18	UPLAND SEEDING	Contractor shall assume a minimum of 6.7 acres of upland seed mix shall be installed.

Provide table of labor and equipment rates. Prevailing wages are required.

Title	Hourly Rate

Equipment Name	Hourly Rate

ARTICLE 6 – TIME OF COMPLETION

- 6.01 Bidder agrees that the Work will be substantially complete on or before **October 11, 2019** and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before **May 30, 2020**.
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

- 7.01 The following documents are submitted with and made a condition of this Bid:
- A. Required Bid security;
 - B. List of Proposed Subcontractors;
 - C. List of Project References;
 - D. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;
 - E. Contractor's License No.: XXXXXXXXXX;
 - F. Required Bidder Qualification Statement with supporting data; and
 - G. Provisional progress schedule.

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

BIDDER: *[Indicate correct name of bidding entity]*

By:

[Signature] _____

[Printed name] _____

(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:

[Signature] _____

[Printed name] _____

Title: _____

Submittal Date: _____

Address for giving notices: _____

Telephone Number: _____

Fax Number: _____

Contact Name and e-mail address: _____

Bidder's License No.: _____
(where applicable)

SECTION 00 43 13

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— Include Location)*:

BOND

Bond Number:

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

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: 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.
3. This obligation shall be null and void if:
 - 3.1 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
 - 3.2 All Bids are rejected by Owner, or
 - 3.3 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 the 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 the 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.

**SECTION 00 45 15
QUALIFICATIONS STATEMENT**

THE INFORMATION SUPPLIED IN THIS DOCUMENT IS CONFIDENTIAL TO THE EXTENT PERMITTED BY LAWS AND REGULATIONS
--

1. SUBMITTED BY:

Official Name of Firm:

Address:

2. SUBMITTED TO:

3. SUBMITTED FOR:

Owner:

Project Name:

TYPE OF WORK:

4. CONTRACTOR'S CONTACT INFORMATION

Contact Person:

Title:

Phone:

Email:

5. AFFILIATED COMPANIES:

Name: _____

Address: _____

6. TYPE OF ORGANIZATION:

☐ SOLE PROPRIETORSHIP

Name of Owner: _____

Doing Business As: _____

Date of Organization: _____

☐ PARTNERSHIP

Date of Organization: _____

Type of Partnership: _____

Name of General Partner(s): _____

☐ CORPORATION

State of Organization: _____

Date of Organization: _____

Executive Officers:

- President: _____

- Vice President(s): _____

- Treasurer: _____

- Secretary: _____

☐ LIMITED LIABILITY COMPANY

State of Organization:

Date of Organization:

Members:

☐ JOINT VENTURE

Sate of Organization:

Date of Organization:

Form of Organization:

Joint Venture Managing Partner

- Name:

- Address:

Joint Venture Managing Partner

- Name:

- Address:

Joint Venture Managing Partner

- Name:

- Address:

7. LICENSING

Jurisdiction: _____

Type of License: _____

License Number: _____

Jurisdiction: _____

Type of License: _____

License Number: _____

8. CERTIFICATIONS

CERTIFIED BY:

Disadvantage Business Enterprise: _____

Minority Business Enterprise: _____

Woman Owned Enterprise: _____

Small Business Enterprise: _____

Other (_____): _____

9. BONDING INFORMATION

Bonding Company: _____

Address: _____

Bonding Agent: _____

Address: _____

Contact Name: _____

Phone: _____

Aggregate Bonding Capacity: _____

Available Bonding Capacity as of date of this submittal: _____

10. CONSTRUCTION EXPERIENCE:

Previous Experience:

List on **Schedule B** a minimum of three relevant projects completed within the last 8 Years that meet pre-qualification requirements listed in the Advertisement for Bids (If Joint Venture list each participant's projects separately).

Has firm listed in Section 1 ever failed to complete a construction contract awarded to it?

☐ YES ☐ NO

If YES, attach as an Attachment details including Project Owner's contact information.

Has any Corporate Officer, Partner, Joint Venture participant or Proprietor ever failed to complete a construction contract awarded to them in their name or when acting as a principal of another entity?

☐ YES ☐ NO

If YES, attach as an Attachment details including Project Owner's contact information.

Are there any judgments, claims, disputes or litigation pending or outstanding involving the firm listed in Section 1 or any of its officers (or any of its partners if a partnership or any of the individual entities if a joint venture)?

☐ YES ☐ NO

If YES, attach as an Attachment details including Project Owner's contact information.

11. SAFETY PROGRAM:

Name of Contractor's Safety Officer: _____

Include the following as attachments:

Provide as an Attachment Contractor's (and Contractor's proposed Subcontractors and Suppliers furnishing or performing Work having a value in excess of 10 percent of the total amount of the Bid) list of all OSHA Citations & Notifications of Penalty (monetary or other) received within the last 5 years (indicate disposition as applicable) - IF NONE SO STATE.

Provide as an Attachment Contractor's (and Contractor's proposed Subcontractors and Suppliers furnishing or performing Work having a value in excess of 10 percent of the total amount of the Bid) list of all safety citations or violations under any state all received within the last 5 years (indicate disposition as applicable) - IF NONE SO STATE.

YEAR _____
YEAR _____

TOTAL NUMBER OF MAN-HOURS _____
TOTAL NUMBER OF MAN-HOURS _____

YEAR _____
YEAR _____
YEAR _____

TOTAL NUMBER OF MAN-HOURS _____
TOTAL NUMBER OF MAN-HOURS _____
TOTAL NUMBER OF MAN-HOURS _____

12. EQUIPMENT:

MAJOR EQUIPMENT:

List on **Schedule C** all pieces of major equipment available for use on Owner's Project.

I HEREBY CERTIFY THAT THE INFORMATION SUBMITTED HERewith, INCLUDING ANY ATTACHMENTS, IS TRUE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

NAME OF ORGANIZATION: _____

BY: _____

TITLE: _____

DATED: _____

REQUIRED ATTACHMENTS

1. Schedule B (Previous Experience).
2. Schedule C (Major Equipment).
3. Evidence of authority for individuals listed in Section 7 to bind organization to an agreement.
4. Resumes of officers and key individuals (including Safety Officer) of firm named in Section 1.
5. Required safety program submittals listed in Section 11.
6. Additional items as pertinent.

SCHEDULE B

PREVIOUS EXPERIENCE (Include five Projects Completed within last 8 years)

Project Name	Owner's Contact Person	Design Engineer	Contract Date	Type of Work	Status	Cost of Work
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				

SCHEDULE B

PREVIOUS RELEVANT EXPERIENCE (Include five Projects Completed within last 8 years)

Project Name	Owner's Contact Person	Design Engineer	Contract Date	Type of Work	Status	Cost of Work
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				

SCHEDULE C - LIST OF MAJOR EQUIPMENT AVAILABLE

[illegible]

SECTION 00 51 10
NOTICE OF AWARD

Date of Issuance:

Owner:

Owner's Contract No.:

Engineer:

Engineer's Project No.:

Project:

Contract Name:

Bidder:

Bidder's Address:

TO BIDDER:

You are notified that Owner has accepted your Bid dated [] for the above Contract, and that you are the Successful Bidder and are awarded a Contract for:

Chorro Creek Ecological Reserve Floodplain Restoration.

The Contract Price of the awarded Contract is: \$_____ [note if subject to unit prices, or cost-plus]

[] unexecuted counterparts of the Agreement accompany this Notice of Award, and one copy of the Contract Documents accompanies this Notice of Award, or has been transmitted or made available to Bidder electronically. [revise if multiple copies accompany the Notice of Award]

☐ a set of the Drawings will be delivered separately from the other Contract Documents.

You must comply with the following conditions precedent within 14 days of the date of this Notice of Award:

1. Deliver to Owner two counterparts of the Agreement, fully executed by Bidder.
2. Deliver with the executed Agreement(s) the Contract security [e.g., performance and payment bonds] and insurance documentation as specified in the Instructions to Bidders and General Conditions, Articles 2 and 6.
3. Other conditions precedent (if any):

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 10 days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Agreement, together with any additional copies of the Contract Documents as indicated in Paragraph 2.02 of the General Conditions.

Owner:

Authorized Signature

By:

Title:

Copy: Engineer

SECTION 00 52 13
AGREEMENT FORM
BETWEEN OWNER AND CONTRACTOR
FOR CONSTRUCTION CONTRACT

THIS AGREEMENT is by and between Morro Bay National Estuary Program ("Owner") and _____ ("Contractor").

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

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

ARTICLE 2 – THE PROJECT

- 2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: **Chorro Creek Ecological Preserve Floodplain Restoration**

ARTICLE 3 – ENGINEER

- 3.01 The part of the Project that pertains to the Work has been designed **by Environmental Science Associates.**
- 3.02 The Owner has retained _____ ("Owner's Representative") 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.

ARTICLE 4 – CONTRACT TIMES

4.01 *Time of the Essence*

- A. 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.

4.02 *Contract Times: Dates*

- A. The Work will be substantially completed on or before **October 11, 2019**, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before **May 30, 2020**. Permitting for work near and within aquatic resources dictates the substantial completion of October 11, 2019. Erosion control and fiber rolls (Bid items 15, 16, 17, 18) will be monitored until May 30, 2020.
- B. Parts of the Work shall be substantially completed on or before the following Milestone(s):
1. Milestone 1 - **Grading and Channel Construction – September 20, 2019**
 2. Milestone 2 – **Erosion Control and Seeding – October 11, 2019**

4.03 *Liquidated Damages*

- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. 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):
1. Substantial Completion: Contractor shall pay Owner \$ 200 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete.
 2. Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner \$ 200 for each day that expires after such time until the Work is completed and ready for final payment.
 3. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently.
 4. Milestones: Contractor shall pay Owner \$ 200 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified above for achievement of Milestone 1, until Milestone 1 is achieved.

4.04 *Special Damages*

- A. In addition to the amount provided for liquidated damages, Contractor shall reimburse Owner (1) for any fines or penalties imposed on Owner as a direct result of the Contractor's failure to attain Substantial Completion according to the Contract Times, and (2) for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Substantial Completion (as duly adjusted pursuant to the Contract), until the Work is substantially complete.
- B. After Contractor achieves Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times, Contractor shall reimburse Owner for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Work to be completed and ready for final payment (as duly adjusted pursuant to the Contract), until the Work is completed and ready for final payment.

ARTICLE 5 – CONTRACT PRICE

- 5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents the amounts that follow, subject to adjustment under the Contract:
- A. A lump sum of: \$.

All specific cash allowances are included in the above price in accordance with Paragraph 13.02 of the General Conditions.

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

ARTICLE 6 – PAYMENT PROCEDURES

6.01 Submittal and Processing of Payments

- A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Owner as provided in the General Conditions.

6.02 Progress Payments; Retainage

- A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment in accordance with Article 15, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions.
1. 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 Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract
- a. 90 percent of Work completed (with the balance being retainage). If the Work has been 50 percent completed as determined by Owner, 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
- B. 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 set off by Owner pursuant to Paragraph 15.01.E 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 punch list of items to be completed or corrected prior to final payment.

6.03 Final Payment

- A. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 15.06.

ARTICLE 7 – INTEREST

- 7.01 All amounts not paid when due shall bear interest at the rate of Zero percent per annum.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

- 8.01 In order to induce Owner to enter into this Contract, Contractor makes the following representations:
- A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.

- B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, 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 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 adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.
- E. Contractor has considered the information known to Contractor itself; 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; and (3) Contractor's safety precautions and programs.
- F. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no 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.
- 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. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 *Contents*

- A. The Contract Documents consist of the following:
 - 1. This Agreement
 - 2. Performance bond
 - 3. Payment bond
 - 4. General Conditions
 - 5. Specifications as listed in the table of contents of the Project Manual.
 - 6. Drawings (not attached but incorporated by reference) consisting of the Drawings listed on the attached sheet index.

7. Addenda.
8. Geotechnical Investigation by Geo Solutions October 19, 2016. Project No. SL09385-1.
9. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
 - a. Notice to Proceed.
 - b. Work Change Directives.
 - c. Change Orders.
 - d. Field Orders.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 Terms

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

10.02 Assignment of Contract

- A. Unless expressly agreed to elsewhere in the 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, money that may become due and money that is 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.

10.03 Successors and Assigns

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

10.04 Severability

- A. 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.

10.05 *Contractor's Certifications*

- A. 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.

10.06 *Other Provisions*

- A. Owner stipulates that if the General Conditions that are made a part of this Contract are based on EJCDC® C-700, Standard General Conditions for the Construction Contract, published by the Engineers Joint Contract Documents Committee®, and if Owner is the party that has furnished said General Conditions, then Owner has plainly shown all modifications to the standard wording of such published document to the Contractor, through a process such as highlighting or "track changes" (redline/strikeout), or in the Supplementary Conditions.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

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

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.)

SECTION 00 51 10
NOTICE TO PROCEED

Owner:	Owner's Contract No.:
Contractor:	Contractor's Project No.:
Engineer:	Engineer's Project No.:
Project:	Contract Name:
	Effective Date of Contract:

TO CONTRACTOR:

Owner hereby notifies Contractor that the Contract Times under the above Contract will commence to run on [REDACTED], 20[REDACTED].

On that date, Contractor shall start performing its obligations under the Contract Documents. No Work shall be done at the Site prior to such date. In accordance with the Agreement, the date of Substantial Completion is **October 11, 2019**, and the date of readiness for final payment is **May 30, 2020**.

Before starting any Work at the Site, Contractor must comply with the following:
Conditions all project Permits.

Owner:

Authorized Signature

By:

Title:

Date Issued:

Copy: Engineer

SECTION 00 61 13
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: ☐ None ☐ See 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 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.

14. Definitions

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

SECTION 00 61 50
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

(seal)

Contractor's Name and Corporate Seal

(seal)

Surety's Name and Corporate 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 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 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.

SECTION 00 62 50
CERTIFICATE OF SUBSTANTIAL COMPLETION

Owner:	Owner's Contract No.:
Contractor:	Contractor's Project No.:
Engineer:	Engineer's Project No.:
Project:	Contract Name:

This [preliminary] [final] Certificate of Substantial Completion applies to:

☐ All Work ☐ 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 Work or portion thereof designated above is hereby established, subject to the provisions of the Contract pertaining to Substantial Completion. The date of Substantial Completion in the final Certificate of Substantial Completion marks the commencement of the contractual correction period and applicable warranties required by the Contract.

A punch list of items to be completed or corrected is attached to this Certificate. 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.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance, and warranties upon Owner's use or occupancy of the Work shall be as provided in the Contract, except as amended as follows: *[Note: Amendments of contractual responsibilities recorded in this Certificate should be the product of mutual agreement of Owner and Contractor; see Paragraph 15.03.D of the General Conditions.]*

Amendments to Owner's responsibilities: ☐ None
☐ As follows

Amendments to Contractor's responsibilities: ☐ None
☐ As follows:

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

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.

EXECUTED BY ENGINEER:		RECEIVED:	RECEIVED:
By: _____ (Authorized signature)	By: _____ Owner (Authorized Signature)	By: _____	Contractor (Authorized Signature)
Title: _____	Title: _____	Title: _____	
Date: _____	Date: _____	Date: _____	

SECTION 00 62 60
NOTICE OF ACCEPTABILITY OF WORK

PROJECT:

OWNER:

CONTRACTOR:

OWNER'S CONSTRUCTION CONTRACT IDENTIFICATION:

EFFECTIVE DATE OF THE CONSTRUCTION CONTRACT:

ENGINEER:

NOTICE DATE:

To: _____
 Owner

And To: _____
 Contractor

From: _____
 Engineer

The Engineer hereby gives notice to the above Owner and Contractor that Engineer has recommended final payment of Contractor, and that the Work furnished and performed by Contractor under the above Construction Contract is acceptable, expressly subject to the provisions of the related Contract Documents, the Agreement between Owner and Engineer for Professional Services dated _____, and the following terms and conditions of this Notice:

CONDITIONS OF NOTICE OF ACCEPTABILITY OF WORK

The Notice of Acceptability of Work ("Notice") is expressly made subject to the following terms and conditions to which all those who receive said Notice and rely thereon agree:

1. This Notice is given with the skill and care ordinarily used by members of the engineering profession practicing under similar conditions at the same time and in the same locality.
2. This Notice reflects and is an expression of the Engineer's professional opinion.
3. This Notice is given as to the best of Engineer's knowledge, information, and belief as of the Notice Date.

4. This Notice is based entirely on and expressly limited by the scope of services Engineer has been employed by Owner to perform or furnish during construction of the Project (including observation of the Contractor's work) under Engineer's Agreement with Owner, and applies only to facts that are within Engineer's knowledge or could reasonably have been ascertained by Engineer as a result of carrying out the responsibilities specifically assigned to Engineer under such Agreement.
5. This Notice is not a guarantee or warranty of Contractor's performance under the Construction Contract, an acceptance of Work that is not in accordance with the related Contract Documents, including but not limited to defective Work discovered after final inspection, nor an assumption of responsibility for any failure of Contractor to furnish and perform the Work thereunder in accordance with the Construction Contract Documents, or to otherwise comply with the Construction Contract Documents or the terms of any special guarantees specified therein.
6. This Notice does not relieve Contractor of any surviving obligations under the Construction Contract, and is subject to Owner's reservations of rights with respect to completion and final payment.

7.

By: _____

Title: _____

Dated: _____

SECTION 00 72 15
STANDARD GENERAL CONDITIONS OF THE
CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. 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.
 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 3. *Application for Payment*—The form acceptable to Owner 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.
 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 8. *Change Order*—A document 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, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Owner concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
 10. *Claim*—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Owner concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Owner's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Owner's decision regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer

has declined to address. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. (“CERCLA”); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5101 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. (“RCRA”); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
12. *Contract*—The entire and integrated written contract between the Owner and Contractor concerning the Work.
13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.
15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
17. *Cost of the Work*—See Paragraph 13.01 for definition.
18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
20. *Engineer or Restoration Engineer* —The individual or entity named as such in the Agreement.
21. *Field Order*—A written order issued by Engineer or Owner which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
22. *Funder* – The California Department of Fish and Wildlife, the entity which is paying Owner for the Work and which payment Contractor agrees is a precondition to payment by Owner to Contractor
23. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.

24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
25. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
26. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.
27. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
28. *Notice to Proceed*—A written notice 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.
29. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
30. *Owner's Representative* – The individual or entity authorized by the Owner to represent the Owner's interest and assist Owner in observing the progress and quality of the Work. The Owner's Site Representative is not Engineer's consultant, agent, or employee. Owner's Site Representative will be *Carolyn Geraghty* or another representative assigned by the Owner.
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 undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.
33. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
34. *Resident Project Representative*—Also known as Owner's Representative, per definition above.
35. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
36. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Owner's review of the submittals and the performance of related construction activities.

37. *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.
38. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
39. *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, and such other lands furnished by Owner which are designated for the use of Contractor.
40. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
41. *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.
42. *Submittals*— Documents, samples, shop drawings, testing results or other items required to be submitted by the Contractor in the Contract Documents.
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 complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.
44. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
45. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions. Not Used.
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 a Subcontractor.
47. *Technical Data*—Those items expressly identified as Technical Data with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.
48. *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 but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other

communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

- 49. *Unit Price Work*—Work to be paid for on the basis of unit prices.
- 50. *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; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.
- 51. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 *Terminology*

- A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives*:
 - 1. 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 Article 10 or any other provision of the Contract Documents.
- C. *Day*:
 - 1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective*:
 - 1. 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 Owner’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03).

E. *Furnish, Install, Perform, Provide:*

1. 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.
2. 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.
3. 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.
4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

- F. 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

2.01 *Delivery of Bonds and Evidence of Insurance*

- A. *Bonds:* 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.
- B. *Evidence of Contractor’s Insurance:* When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner copies of the policies of insurance (including all endorsements, and identification of applicable self-insured retentions and deductibles) required to be provided by Contractor in Article 6. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor one printed copy of the Contract (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), Contractor shall submit to Owner for timely review:

1. 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;
2. a preliminary Schedule of Submittals; and
3. 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.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. 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 2.03.A, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. 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 and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Initial Acceptance of Schedules*

- A. 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 Owner as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 5 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 Owner.
 1. The Progress Schedule will be acceptable to Owner if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Owner 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.
 2. Contractor's Schedule of Submittals will be acceptable to Owner if it provides a workable arrangement for reviewing and processing the required submittals.
 3. Contractor's Schedule of Values will be acceptable to Owner as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.

- B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. 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.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

3.02 *Reference Standards*

- A. Standards Specifications, Codes, Laws and Regulations
 - 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, 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, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 - 2. No provision of any such standard specification, manual, reference standard, 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 part of the Contract Documents prepared by or for Engineer. 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 part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies:*

1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Owner any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.
2. *Contractor's Review of Contract Documents:* If, before or 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) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Owner in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.
3. 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.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
 - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
 - b. 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).

3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Owner all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Owner will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.
- B. Owner will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Owner's written clarification, interpretation, or decision will be final and

binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.

- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
 - 1. 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 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; or
 - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Contract 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 Contract. 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 Contract, whichever date is earlier.

4.02 *Starting the Work*

- A. 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 such date.

4.03 *Reference Points*

- A. 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.

4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Owner for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.
- B. 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 during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, 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 Times. 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.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. 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. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
 - 1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 - 2. abnormal weather conditions;
 - 3. acts or failures to act of utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
 - 4. acts of war or terrorism.
- D. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated

with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.

- E. Paragraph 8.03 governs delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.
- F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor.
- G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *Availability of Lands*

- A. The Site is owned by California Department of Fish and Wildlife. 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.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made 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.

5.02 *Use of Site and Other Areas*

- A. *Limitation on Use of Site and Other Areas:*
 - 1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
 - 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, 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 any such claim, and against all 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 directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent 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.
- C. *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 and adjacent areas 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.
- D. *Loading of 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 structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

- A. The following reports of explorations and tests of subsurface conditions at or adjacent to the Site are known to Owner:
 - 1. Report dated October 19, 2016, prepared by GeoSolutions, Inc, San Luis Obispo, CA, entitled: Test Pits, Soil analysis, and Summary Report – Chorro Creek Ecological Reserve, San Luis County CA.
 - 2. The Technical Data contained in such report upon whose accuracy Contractor may rely are those indicated in the definition of Technical Data in the General Conditions.
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified Paragraph 5.03 with respect to such reports and drawings, but such reports and drawings are not Contract Documents. Except for such reliance on 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:
 - 1. 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
 - 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 - 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site either:
1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate; or
 2. is of such a nature as to require a change in the Drawings or Specifications; or
 3. differs materially from that shown or indicated in the Contract Documents; or
 4. 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 as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Possible Price and Times Adjustments:*
1. Contractor shall be entitled to an equitable adjustment in Contract Times, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's time required for performance of the Work; subject, however, to the following:
 - a. such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
 - b. 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.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
 - a. Contractor knew of the existence of such condition at the time Contractor made a 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 otherwise; or
 - b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 5.04.A.
3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Times, then any such adjustment shall be set forth in a Change Order.
4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Times no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent 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.
 1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and
 2. 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 information and data regarding existing Underground Facilities at the Site;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;
 - c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 - d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, then 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 as required by Paragraph 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.

- C. *Engineer's Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing of Engineer's findings, conclusions, and recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Possible Price and Times Adjustments:*
 - 1. Contractor shall be entitled to an equitable adjustment in the Contract Times to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's time required for performance of the Work; subject, however, to the following:
 - a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
 - b. 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; and
 - c. Contractor gave the notice required in Paragraph 5.05.B.
 - 2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
 - 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 *Hazardous Environmental Conditions at Site*

- A. No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.

ARTICLE 6 – BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, 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. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by specific provisions of the Contract.
- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond 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 the accompanying bond.
- C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.
- D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then 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 bond and surety requirements above.
- E. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this Article.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
 - 1. Contractor may obtain worker's compensation insurance from an insurance company that has not been rated by A.M. Best, provided that such company (a) is domiciled in the state in which the project is located, (b) is certified or authorized as a worker's compensation insurance provider by the appropriate state agency, and (c) has been

accepted to provide worker's compensation insurance for similar projects by the state within the last 12 months.

- C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is maintaining the policies, coverages, and endorsements required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- E. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, 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.
- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.
- I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.
- J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

6.03 *Contractor's Insurance*

- A. *Workers' Compensation:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.

2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
 3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).
 4. Foreign voluntary worker compensation (if applicable).
- B. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:
1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.
 2. claims for damages insured by reasonably available personal injury liability coverage.
 3. 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.
- C. *Commercial General Liability—Form and Content:* Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:
1. Products and completed operations coverage:
 - a. Such insurance shall be maintained for three years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured evidence of continuation of such insurance at final payment and three years thereafter.
 2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
 3. Broad form property damage coverage.
 4. Severability of interest.
 5. Underground, explosion, and collapse coverage.
 6. Personal injury coverage.
 7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.
 8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.
- D. *Automobile liability:* Contractor shall purchase and maintain automobile liability insurance against 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 automobile liability policy shall be written on an occurrence basis.
- E. *Umbrella or excess liability:* Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to

industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.

- F. *Contractor's pollution liability insurance*: Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.
- G. *Additional insureds*: The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer; 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 (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.
- H. *Contractor's professional liability insurance*: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.
- I. *General provisions*: The policies of insurance required by this Paragraph 6.03 shall:
 - 1. include at least the specific coverages provided in this Article.
 - 2. be written for not less than the limits of liability provided in this Article, or required by Laws or Regulations, whichever is greater.
 - 3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.
 - 4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.
 - 5. be appropriate for the Work being performed and provide protection from claims that 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 them to perform any of the Work, or by anyone for whose acts any of them may be liable.
- J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

6.04 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, 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.
- B. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

6.05 *Property Insurance*

- A. *Builder's Risk:* The Contractor is not required to purchase and maintain builder's risk insurance, but may however elect to do so. If the Contractor elect's to purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as Contractor elects or required by Laws and Regulations). This insurance shall:
 - 1. include the Owner and Contractor as named insureds, and all Subcontractors, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, the parties required to be insured shall collectively be referred to as "insureds."
 - 2. 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; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood). If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.
 - 3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
 - 4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).
 - 5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).

6. extend to cover damage or loss to insured property while in transit.
 7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
 8. allow for the waiver of the insurer's subrogation rights, as set forth below.
 9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
 10. not include a co-insurance clause.
 11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
 12. include performance/hot testing and start-up.
 13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.
- B. *Notice of Cancellation or Change:* All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.
- C. *Deductibles:* The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
- D. *Partial Occupancy or Use by Owner:* If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
- E. *Additional Insurance:* If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor's expense.
- F. *Insurance of Other Property:* If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

6.06 *Waiver of Rights*

- A. All policies purchased in accordance with Paragraph 6.05 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 insureds thereunder, or against Engineer or its consultants, or their

officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and the 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 Engineer, its consultants, all Subcontractors, 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 or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.

- B. 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:
 - 1. 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
 - 2. 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 occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B 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, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.
- D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, the Engineer and its consultants, 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 builder's risk insurance and any other property insurance applicable to the Work.

6.07 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.
- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause.

A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.05 shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.

- C. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

7.01 *Supervision and Superintendence*

- A. 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.
- B. 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.

7.02 *Labor; Working Hours*

- A. 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.
- B. 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, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.
- C. Contractor regular working hours will be 8 am to 5 pm. (Revegetation Contractor regular working hours will be 8:30am to 3:30pm.)
- D. Owner's legal holidays are new year's Day, Martin Luther King Day, President's Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day, and Christmas Day.

7.03 *Services, Materials, and Equipment*

- A. 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, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work 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.

- C. 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.

7.04 "Or Equals"

- A. 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 Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item 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 is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.
 - 1. If Engineer in its sole discretion determines that 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, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) 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;
 - 3) it has a proven record of performance and availability of responsive service; and
 - 4) it is not objectionable to Owner.
 - b. 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.
- B. *Contractor's Expense:* Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal", which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.

- D. *Effect of Engineer's Determination:* Neither approval nor denial of an "or-equal" request shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
- E. *Treatment as a Substitution Request:* If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the proposed item as a substitute pursuant to Paragraph 7.05.

7.05 Substitutes

- A. Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.
 - 1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of material or equipment from anyone other than Contractor.
 - 2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
 - 3. 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:
 - a. shall certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design,
 - 2) be similar in substance to that specified, and
 - 3) be suited to the same use as that specified.
 - b. will state:
 - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times,
 - 2) 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
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
 - c. will identify:
 - 1) all variations of the proposed substitute item from that specified, and

- 2) available engineering, sales, maintenance, repair, and replacement services.
- d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost:* 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.
- E. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination:* If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.

- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. 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 the right of Owner to the completion of the Work in accordance with the Contract Documents.
- H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. 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.
- J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- L. 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.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.

O. 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 money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.07 *Patent Fees and Royalties*

- A. 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.
- B. 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.
- C. 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.

7.08 *Permits*

- A. The Owner will obtained the following permits for the project (Appendix A):

1. San Luis Obispo County Minor Use Development Permit

The Funder (California Department of Fish and Wildlife) will obtain the following permits for the project (Appendix A):

1. United States Army Corps of Engineers 404 Permit
2. California Department of Fish and Wildlife, Lake and Streambed Alteration Permit
3. Regional Water Quality Control Board (RWQCB) 401 Permit

- B. Unless otherwise provided in the Contract Documents, 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 the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work

7.09 *Taxes*

- A. 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.

7.10 *Laws and Regulations*

- A. 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.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and 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 such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.11 *Record Documents*

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

7.12 *Safety and Protection*

- A. 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, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. 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 Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any.
- D. 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.
- E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.3 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 at its expense (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).
- F. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
- G. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.13 *Safety Representative*

- A. 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.

7.14 *Hazard Communication Programs*

- A. 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.

7.15 *Emergencies*

- A. 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.

7.16 *Shop Drawings, Samples, and Other Submittals*

A. *Shop Drawing and Sample Submittal Requirements:*

1. Before submitting a Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. 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.
2. 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 of that submittal, and that Contractor approves the submittal.
3. With each submittal, Contractor shall give Owner 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 set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Owner for review and approval of each such variation.

- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Owner for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Owner may require.

1. *Shop Drawings:*

- a. Contractor shall submit the number of copies required in the Specifications.

- 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 Owner the services, materials, and equipment Contractor proposes to provide and to enable Owner to review the information for the limited purposes required by Paragraph 7.16.D.
- 2. *Samples:*
 - a. Contractor shall submit the number of Samples required in the Specifications.
 - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Owner may require to enable Owner to review the submittal for the limited purposes required by Paragraph 7.16.D.
- 3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Owner's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. *Other Submittals:* Contractor shall submit other submittals to Owner in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.
- D. *Engineer's Review:*
 - 1. 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.
 - 2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto.
 - 3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
 - 4. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 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 will document any such approved variation from the requirements of the Contract Documents in a Field Order.
 - 5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.
 - 6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.

7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.
8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.

E. *Resubmittal Procedures:*

1. 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.
2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 *Contractor's General Warranty and Guarantee*

- A. 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 Contractor's warranty and guarantee.
- B. 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.
- C. 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;
 6. the issuance of a notice of acceptability by Engineer;
 7. any inspection, test, or approval by others; or

8. any correction of defective Work by Owner.
- D. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 Indemnification

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, 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.
- B. 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 under Paragraph 7.18.A 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.
- C. The indemnification obligations of Contractor under Paragraph 7.18.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.

7.19 Delegation of Professional Design Services

- A. 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 Laws and Regulations.
- B. 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, 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.

- C. 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.
- D. Pursuant to this paragraph, 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 in Paragraph 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

ARTICLE 8 – OTHER WORK AT THE SITE

8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. 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.
- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, 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.

8.02 *Coordination*

A. Owner intends to contract with others for the performance of other work at or adjacent to the Site.

1. The Owner shall have authority and responsibility for coordination of the various contractors and work forces at the Site;
2. The specific matters are to be covered by such authority and responsibility are documented in the construction drawings and the General Requirements Section 01 11 00 Summary of Work.

B. Unless otherwise provided, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

- A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner for whom the Owner is responsible causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. 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.
- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this paragraph.
- C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.
- D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim

arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) 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 any such claims, and against all 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 damage, delay, disruption, or interference.

ARTICLE 9 – OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through the Owner's Representative.

9.02 *Replacement of Engineer*

- A. Owner may at its discretion appoint an engineer to replace Engineer. The replacement engineer's status under the Contract Documents shall be that of the former Engineer.

9.03 *Furnish Data*

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

9.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
- B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
- C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner's Responsibilities*

- A. 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.

9.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

- A. 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 (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

- A. 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.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

- A. The Owner has appointed a representative apart from the Engineer, known as the Owner's Representative.

10.02 *Visits to Site*

- A. 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.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.08. 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.

10.03 *Project Representative*

- A. The Owner will furnish an Owner's Representative (OR) to represent the Owner at the Site and assist Engineer in observing the progress and quality of the Work. The authority and responsibilities of the OR will be as provided in Paragraph 10.03.B. and 10.03.C. below and limitations on the responsibilities thereof will be as provided in Paragraph 10.08.
- B. The Owner's Representative (OR) will be Owner's representative at the Site, will act as directed by and under the supervision of Owner, and will confer with Owner regarding their actions.
 - 1. General: OR's dealings in matters pertaining to the Work in general shall be with Engineer and Contractor. OR's dealings with Subcontractors shall only be through or with the full knowledge and approval of Contractor. OR shall generally communicate with Owner only with the knowledge of and under the direction of Engineer.
 - 2. Schedules: Review the progress schedule, schedule of Shop Drawing and Sample submittals, and Schedule of Values prepared by Contractor and consult with Engineer concerning acceptability.
 - 3. Conferences and Meetings: Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings, and prepare and circulate copies of minutes thereof.
 - 4. Liaison:
 - a. Serve as Engineer's liaison with Contractor. Working principally through Contractor's authorized representative or designee, assist in providing information regarding the provisions and intent of the Contract Documents.
 - b. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.
 - c. Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.
 - 5. Interpretation of Contract Documents: Report to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.
 - 6. Shop Drawings and Samples:
 - a. Record date of receipt of Samples and Contractor-approved Shop Drawings.
 - b. Receive Samples which are furnished at the Site by Contractor, and notify Engineer of availability of Samples for examination.
 - c. Advise Engineer and Contractor of the commencement of any portion of the Work requiring a Shop Drawing or Sample submittal for which OR believes that the submittal has not been approved by Engineer.
 - 7. Modifications: Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report such suggestions, together with OR's recommendations, if any, to Engineer. Transmit to Contractor in writing decisions as issued by Engineer.
 - 8. Review of Work and Rejection of Defective Work:

- a. Conduct on-Site observations of Contractor's work in progress to assist Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.
 - b. Report to Engineer whenever OR believes that any part of Contractor's work in progress is defective, will not produce a completed Project that conforms generally to the Contract Documents, or will imperil the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Engineer of that part of work in progress that OR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.
9. Inspections, Tests, and System Start-ups:
- a. Verify that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Owner's personnel, and that Contractor maintains adequate records thereof.
 - b. Observe, record, and report to Engineer appropriate details relative to the test procedures and systems start-ups.
10. Records:
- a. Prepare a weekly report or keep a diary or log book, recording Contractor's hours on the Site, Subcontractors present at the Site, weather conditions, data relative to questions of Change Orders, Field Orders, Work Change Directives, or changed conditions, Site visitors, deliveries of equipment or materials, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to Engineer as needed.
 - b. Record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of all Contractors, Subcontractors, and major Suppliers of materials and equipment.
 - c. Maintain records for use in preparing Project documentation.
11. Reports:
- a. Furnish to Engineer and Owner periodic reports as required of progress of the Work and of Contractor's compliance with the Progress Schedule and schedule of Shop Drawing and Sample submittals.
 - b. Draft and recommend to Engineer and Owner proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from Contractor.
 - c. Immediately notify Engineer and Owner of the occurrence of any Site accidents, emergencies, acts of God endangering the Work, force majeure or delay events, damage to property by fire or other causes, or the discovery of any Constituent of Concern or Hazardous Environmental Condition.
12. Payment Requests: Review applications for payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Owner, noting particularly the relationship of the payment requested to the Schedule of Values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.

13. Certificates, Operation and Maintenance Manuals: During the course of the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the Contract Documents to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have these documents delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.

14. Completion:

- a. Participate in Engineer's visits to the Site to determine Substantial Completion, assist in the determination of Substantial Completion and the preparation of a punch list of items to be completed or corrected.
- b. Participate in Engineer's final visit to the Site to determine completion of the Work, in the company of Owner and Contractor, and prepare a final punch list of items to be completed and deficiencies to be remedied.
- c. Observe whether all items on the final list have been completed or corrected and make recommendations to Engineer concerning acceptance and issuance of the notice of acceptability of the work.

C. The OR shall not:

1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items).
2. Exceed limitations of Engineer's authority as set forth in the Contract Documents.
3. Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers.
4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of Contractor's work.
5. Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.
6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.
7. Accept Shop Drawing or Sample submittals from anyone other than Contractor.

10.04 *NOT USED*

10.05 *Rejecting Defective Work*

- A. Owner has the authority to reject Work in accordance with Article 14.

10.06 *Shop Drawings, Change Orders and Payments*

- A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.
- B. 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, are set forth in Paragraph 7.19.
- C. Owner's authority as to Change Orders is set forth in Article 11.
- D. Owner's authority as to Applications for Payment is set forth in Article 15.

10.07 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.08 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, 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.
- B. 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.
- C. 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.
- D. 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 15.06.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.
- E. The limitations upon authority and responsibility set forth in this Paragraph 10.08 shall also apply to the Resident Project Representative, if any.

10.09 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs (if any) of which Engineer has been informed.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

11.01 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
 - 1. *Change Orders:*
 - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must

be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.

- b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.
2. *Work Change Directives:* A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.
3. *Field Orders:* Engineer and Owner's Representative may authorize minor changes in the Work if the changes 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. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.02 *Owner-Authorized Changes in the Work*

- A. 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. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.03 *Unauthorized Changes in the Work*

- A. 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, except in the case of an emergency

as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

11.04 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:
 - 1. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or
 - 2. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).
- C. *Contractor's Fee*: When applicable, 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 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 13.01.B.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 11.04.C.2.a and 11.04.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
 - 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 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.
- B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

11.06 *Change Proposals*

- A. Contractor shall submit a Change Proposal to the Owner to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by the Owner concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.
 - 1. *Procedures:* Contractor shall submit each Change Proposal to the Owner promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Owner within 15 days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal as requested by the Owner.
 - 2. *Owner's Action:* Engineer will review each Change Proposal and, within 15 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Contractor. If the Owner does not take action on the Change Proposal within 15 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Owner's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.
 - 3. *Binding Decision:* Owner's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- B. *Resolution of Certain Change Proposals:* If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

11.07 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
 - 1. 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;
 - 2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 - 3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and
 - 4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 *Notification to Surety*

- A. 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.

ARTICLE 12 – CLAIMS

12.01 *Claims*

- A. *Claims Process:* The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:
 - 1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
 - 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and
 - 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.
- B. *Submittal of Claim:* The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of

Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

- C. *Review and Resolution:* The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation:*
 - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.
 - 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.
 - 3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval:* If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim:* If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results:* If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 Cost of the Work

- A. *Purposes for Determination of Cost of the Work:* The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
 - 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
 - 2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined

on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.

- B. *Costs Included:* Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work 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 13.01.C, 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, and 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.
 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 13.01.
 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:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. 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.

- c. 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.
- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
- e. 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.
- f. 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 6.05), 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.
- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

C. *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 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here 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 Paragraph 13.01.B.
- D. *Contractor's Fee*: When the Work as a whole 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, Change Proposal, Claim, set-off, or other 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 11.04.C.
- E. *Documentation*: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, 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.

13.02 *Allowances*

- A. 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.
- B. *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.
- C. Prior to final payment, an appropriate Change Order will be issued as recommended by Owner to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

14.01 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction 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.

14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Owner timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs

incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.

- C. 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.
- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
 - 1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 - 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
 - 3. by manufacturers of equipment furnished under the Contract Documents;
 - 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
 - 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. 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. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

- F. *Costs and Damages*: In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages 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. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then 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, and provide all necessary labor, material, and equipment.
1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages 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 pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
 2. 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, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 Owner May Stop the Work

- A. 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, then 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.

14.07 Owner May Correct Defective Work

- A. 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, 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, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, 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, 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.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. 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.
- D. 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 14.07.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 Progress Payments

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to the Owner.
- B. *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 the Owner 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, a warehouse bond, 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.
4. Documentation of prevailing wage.

C. *Review of Applications:*

1. Owner will, within 7 days after receipt of each Application for Payment, including each resubmittal, either approve the application for payment or return the Application to Contractor indicating in writing Owner's reasons for refusing payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Owner's recommendation of any payment requested in an Application for Payment will constitute a representation by Owner, that to the best of Owner's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents.
3. By recommending any such payment Owner will not thereby be deemed to have represented that:
 - a. 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; or
 - b. 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.

D. *Payment Becomes Due:*

1. The Owner will pay the Contractor within 30 business days of receipt and approval of the final Application for Payment.

E. *Reductions in Payment by Owner:*

1. Owner is entitled to impose a set-off against payment based on any of the following:
 - a. the Work is defective, requiring correction or replacement;
 - b. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from

- workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
- c. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - d. Contractor has failed to provide and maintain required bonds or insurance;
 - e. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - f. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return site visits;
 - g. the Work is defective, requiring correction or replacement;
 - h. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - i. the Contract Price has been reduced by Change Orders;
 - j. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
 - k. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - l. 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;
 - m. there are other items entitling Owner to a set off against the amount recommended.
2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly submit the Contractor's Application for Payment to Funder for any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld withheld in accordance with terms of Paragraph 15.01.D, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.
3. 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 15.01.C.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

15.03 *Substantial Completion*

- A. 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 and request that Owner issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
 - 1. The Contractor may notify the Owner and Engineer in writing that the portion of the work excluding erosion control and seeding (Bid Items 15, 16, 17, and 18) is substantially complete and request that owner issue a certification of Substantial Completion notification for this work.
 - 2. When excluded Work is complete then the Contractor shall notify the Owner and Engineer in writing that the remaining portion of the Work is substantially complete and request that Owner issue a certificate of Substantial Completion notification for this work.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Owner does not consider the Work substantially complete, Owner will notify Contractor in writing giving the reasons therefore. Owner shall attach to the certificate a punch list of items to be completed or corrected before final payment. After completion of the punch list items, Contractor to follow procedure in Paragraph 15.03.A.
 - 1. If some or all of the Work has been determined not to be at a point of Substantial Completion and will require re-inspection or re-testing by Engineer, the cost of such re-inspection or re-testing, including the cost of time, travel and living expenses, shall be paid by Contractor to Owner. If Contractor does not pay, or the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 15.
- C. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- D. 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 punch list.

15.04 *Partial Use or Occupancy* NOT USED

15.05 *Final Inspection*

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

15.06 *Final Payment*

- A. *Application for Payment:*
 - 1. After Contractor has, in the opinion of Owner, 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, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
 - d. a list of all disputes that Contractor believes are unsettled;
 - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work; and
 - f. documentation of prevailing wage.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) 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, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

B. *Owner's Review of Application and Acceptance:*

1. If, on the basis of Owner's observation of the Work during construction and final inspection, and Owner's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Owner is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Owner will, within 30 business days after receipt of the final Application for Payment, pay Contractor. Such recommendation shall account for any set-offs against payment that are necessary in Owner's opinion to protect Owner from loss for the reasons stated above with respect to progress payments.

C. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Owner's written recommendation of final payment.

D. *Payment Becomes Due:* Per Paragraph 15.01.D.

15.07 *Waiver of Claims*

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from

Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.

- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

15.08 *Correction Period*

- A. 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 Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. correct the defective repairs to the Site or such other adjacent areas;
 - 2. correct such defective Work;
 - 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 to other land or areas resulting therefrom.
- B. 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. 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 repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).
- C. 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.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, 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.
- E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

- A. 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 written notice to Contractor and Engineer.

Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in an extension of the Contract Times directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 Owner May Terminate for Cause

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and 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);
 - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:
 - 1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and
 - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, 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 complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.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 the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds 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.
- F. 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, or any rights or remedies of Owner against Contractor or any surety

under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.

- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate For Convenience*

- A. 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):
 - 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; and
 - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Owner fails to act on any Application for Payment, or (3) Owner fails to pay Contractor any sum finally determined to be due under Article 15, then Contractor may, upon seven days written notice to Owner, and provided Owner does 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 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Owner 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 under Article 15, 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 are not intended to preclude Contractor from submitting a Change Proposal 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 17 – FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this Article:
 - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and

2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this Article, Owner or Contractor may:
1. elect in writing to invoke the dispute resolution process provided for in Article 17.02 Arbitration; or
 2. agree with the other party to submit the dispute to another dispute resolution process; or
 3. if no dispute resolution process mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

17.02 Arbitration

- A. All matters subject to final resolution under this Article will be decided by arbitration in accordance with the Construction Arbitration rules of the American Arbitration Association, subject to the conditions and limitations of this paragraph. This agreement to arbitrate and any other agreement or consent to arbitrate entered into will be specifically enforceable under the prevailing law of any court having jurisdiction.
- B. The demand for arbitration will be filed in writing with the other party to the Contract and with the selected arbitrator or arbitration provider, and a copy will be sent to Engineer for information. The demand for arbitration will be made within the specific time required in this Article, or if no specified time is applicable within a reasonable time after the matter in question has arisen, and in no event shall any such demand be made after the date when institution of legal or equitable proceedings based on such matter in question would be barred by the applicable statute of limitations. The demand for arbitration should include specific reference to Paragraph 17.02.D below.
- C. No arbitration arising out of or relating to the Contract shall include by consolidation, joinder, or in any other manner any other individual or entity (including Engineer, and Engineer's consultants and the officers, directors, partners, agents, employees or consultants of any of them) who is not a party to this Contract unless:
1. the inclusion of such other individual or entity is necessary if complete relief is to be afforded among those who are already parties to the arbitration; and
 2. such other individual or entity is substantially involved in a question of law or fact which is common to those who are already parties to the arbitration and which will arise in such proceedings.
- D. The award rendered by the arbitrator(s) shall be consistent with the agreement of the parties, in writing, and include a concise breakdown of the award, and a written explanation of the award specifically citing the Contract provisions deemed applicable and relied on in making the award.
- E. The award will be final. Judgment may be entered upon it in any court having jurisdiction thereof, and it will not be subject to modification or appeal, subject to provisions of the Laws and Regulations relating to vacating or modifying an arbitral award.
- F. The fees and expenses of the arbitrators and any arbitration service shall be shared equally by Owner and Contractor.

17.03 *Attorneys' Fees:*

- A. For any matter subject to final resolution under this Article, the prevailing party shall be entitled to an award of its attorneys' fees incurred in the final resolution proceedings, in an equitable amount to be determined in the discretion of the court, arbitrator, arbitration panel, or other arbiter of the matter subject to final resolution, taking into account the parties' initial demand or defense positions in comparison with the final result.

ARTICLE 18 – MISCELLANEOUS

18.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
 - 1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or
 - 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

18.02 *Computation of Times*

- A. When any period of time is referred to in the Contract 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.

18.03 *Cumulative Remedies*

- A. 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. 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.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

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

18.07 *Controlling Law*

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

18.08 *Headings*

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

SECTION 01 11 00
SUMMARY OF WORK

PART 1 – GENERAL

1.01 SUMMARY

- A. The work area will be shared by multiple contractors under separate contracts. Several work items, as described below, require the coordination and concurrent participation by multiple contractor crews. Work will be coordinated by the Owner's Representative.
- B. Provide all labor, materials, and equipment to complete the following:
 - 1. Mobilization, demobilization, and development of staging facilities and site access including establishing and removing a wet channel crossing and fencing.
 - 2. Clearing and grubbing of earthwork areas, and minor demolition and off haul. Decommissioning of the western water well in the grading footprint (approximate well location: 35.35105, -120.77969).
 - 3. Select tree removal, and/or salvage for log structures.
 - 4. Site grading.
 - 5. Installing habitat wood structures.
 - 6. Coordinating with, and accommodating materials and labor supplied by, Revegetation Contractor (see below).
 - 7. Coordinating, procuring materials, and providing equipment and one (1) operator for installing biotechnical treatments, including brush mat, willow baffle, and habitat wood structure in conjunction with Revegetation Contractor.
 - 8. Install seed mixes as described in the plans.
 - 9. Sediment and erosion control throughout construction including the preparation of a Storm Water Pollution Prevention Plan (SWPPP) and installation and maintenance of post-construction erosion control measures.
- C. Concurrent Work conducted by Revegetation Contractor and Well Contractor, to be coordinated by Owner's Representative:

1. Demolish and off haul existing fence.
2. Procuring and installing all plant material, except for seeding.
3. Installing irrigation mainlines, laterals, and controllers to service revegetation.
4. Working in conjunction with Contractor by providing plant materials and hand labor for installation of the following features: habitat log structures, willow baffles, and brush mat.
5. Well Contractor will recondition existing onsite well for irrigation use.

1.02 DEFINITIONS

- A. Project Sponsor: Morro Bay National Estuary Program (MBNEP). Referred to herein in some locations as the “Owner’s Representative.”
- B. Owner’s Representative: MBNEP’s designated representative throughout construction.
- C. Landowner: The project is located on land owned by California Department of Fish and Wildlife.
- D. Restoration Engineer: Environmental Science Associates (ESA).
- E. Biological Monitor: A qualified biologist, approved by California Department of Fish and Wildlife, contracted by Project Sponsor to monitor pertinent permit conditions.
- F. Standard Specifications: shall mean the Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, latest edition.

1.03 SEQUENCE AND SCHEDULE REQUIREMENTS

- A. The Contractor shall schedule and sequence the work so that all earthwork and improvements are completed no later than October 11th, including erosion control and seeding, and removal of temporary construction access across creek.
- B. All work within the active channel cannot begin until July 1st and must be completed, including complete removal of temporary dewatered areas by October 11. These working dates are dictated by permits for sensitive species near the project site.
- C. See Section 01 57 19 Environmental Protection for allowable dates for select construction activities based on regulatory permits.

PART 2 – PRODUCTS - NOT USED

PART 3 – EXECUTION - NOT USED

*** END OF SECTION ***

SECTION 01 21 10

MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.01 SUMMARY

- A. This Specification section describes the Contract requirements for the measurement and payment for work performed under this Contract.
- B. Payment for each contract bid item includes full compensation for all labor, equipment, tools, supplies and incidentals necessary to complete the work as shown on the drawings and described in these specifications.

1.02 MEASUREMENT AND PAYMENT

- A. Lump Sum Bid Items:
 - 1. Payment items for the work of this contract for which contract lump sum payments will be made are listed in the Bid Schedule and described below. All costs for items of work, which are not specifically mentioned in a particular lump sum payment item, shall be included in the listed lump sum item most closely associated with the work involved. The lump sum price and payment made for each item listed shall constitute full compensation for furnishing all labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, obtaining permits, meeting safety requirements, tests and reports, and for performing all work required for which separate payment is not otherwise provided.
 - 2. Before the Contractor's first progress pay request on this project, the Contractor shall provide the Owner's Representative a Schedule of Values (Lump Sum Breakdown) for each Lump Sum bid item shown on the Bid Schedule. The Schedule of Values shall be a well-balanced, detailed breakdown of work items consisting of estimated quantities, unit prices, material, and equipment costs the Contractor allocates for the work covered under each Lump Sum bid item.
 - 3. Such Schedule of Values shall not be unbalanced and will be subject to approval of the Owner's Representative and will be used to compute progress payments for Lump Sum bid item work. The Contractor shall provide proof of costs to justify the submitted Schedule of Values if requested by the Owner's Representative.

4. Where Contract Change Orders are issued increasing or decreasing the scope of the work and cost, the Contractor shall prepare revisions to the Schedule of Values, where necessary, for approval of the Owner's Representative. The revised Schedule of Values will be used for subsequent progress payments.

1.03 EARTHWORK QUANTITIES

- A. The estimated earthwork volumes for lump sum Bid Item 6. Excavation and Onsite Disposal, is 24,300 cubic yards.
- B. This quantity estimate is approximate only and provided only to assist bidders with understanding the scale of the project. The Contractor is responsible for preparing all earthwork volume estimates and its own quantity takeoffs.
- C. The quantity estimates have been made by the Engineer using the topographic data available at the time the Contract Documents were signed and sealed. Estimated earthwork quantities were calculated as the difference between existing and design grades. Quantities were rounded up to the nearest 100 cubic yards.
- D. Estimated earthwork quantities for Bid Item 6 do not include over-excavation and fill placement of 6-inch topsoil layer.
- E. The Contractor may, at its option and sole cost, elect to perform its own pre-construction topographic survey prior to construction in order to supplement and/or confirm existing survey data provided. Requirements for the pre-construction survey are provided in Section 01 71 70 Field Engineering. The Contractor may elect to calculate estimated earthwork quantities using pre-construction survey data and a methodology mutually agreed upon with the Owner's Representative.
- F. If the Contractor's revised quantities vary by more than 25% from the estimated quantities presented above, it may be considered the basis for a change order. If the difference in revised and estimated quantities for any bid item is greater than 25%, the Owner reserves the right to modify the design dimension(s) to avoid increased payment to the quantities, provided the design modification does not substantially change the nature of the work.
- G. Except as provided herein, the Contractor shall waive any and all claims regarding earthwork quantities and survey data.

1.04 DESCRIPTION OF BID ITEMS

The Bid Schedule bid items are presented to indicate major categories of the work for purposes of comparative bid analysis, payment, breakdown for monthly progress payments, and final payment to the Contractor under the Contract. The Bid Schedule is not intended to be exclusive descriptions of work categories and the Contractor shall

determine and include in its pricing all materials, labor, equipment, and operations necessary to complete each bid item of work, as shown and specified, and all costs of compliance with all applicable regulations of public agencies having jurisdiction, including, but not limited to, the health and safety requirements of the California Division of Industrial safety and the Occupational Safety and Health Administration of the U.S. Department of labor (OSHA).

A. Description of Bid Items, Base Bid Schedule – Chorro Creek Ecological Reserve Floodplain Restoration.

Bid Item No. 1, Mobilization (Lump Sum): Payment to be made under this bid item includes, but is not limited to, all costs associated with mobilization to and demobilization from the project site, mobilization within the project site to individual work areas, temporary facilities, fencing, access roads, submittals, permits, utility location and protection, site clean-up after completion and acceptance of all work, and other items relevant to this project and not specifically included in the other bid items.

Bid Item No. 2, Clearing, Grubbing, and Minor Demolition (Lump Sum): Payment to be made under this bid item shall include, but is not limited to, all costs for clearing, grubbing, tree removal including trunks with intact rootwads for use in the project, tree pruning and root trimming, and all other minor demolition not shown on the plans, and offsite disposal of materials generated.

Bid Item No.3 Temporary Diversion/Crossing (Lump Sum): Payment to be made under this bid item shall be for installing, operating, inspecting, and removal of all equipment and materials related to flow control and localized dewatering throughout the construction period, and for establishing a temporary channel crossing for vehicle access during construction.

Bid Item No.4 SWPPP Compliance (Lump Sum): Payment to be made under this bid item shall be for Storm Water Pollution Prevention Plan (SWPPP) Compliance, including preparation of the SWPPP, Monitoring and Reporting Plan (M&RP), NOI and NOT, monitoring, inspection and sampling and analysis as required by the M&RP, installation of supplemental erosion control best management practices (BMPs) not included under other bid prices, and any mitigation required if analytical results are out of compliance with the SWPPP. Contractor will upload Report Tracking to (SMARTs) system with approval by Owner.

Bid Item No.5, Removal and Off Haul of Debris (Lump Sum): Payment to be made under this bid item shall be for completely removing and off hauling stockpiled concrete debris, debris from demolition items, and other debris found on the project site to a legal disposal site.

Bid Item No.6, Excavation and Onsite Disposal (Lump Sum): Payment to be made under this bid item shall be for excavation and onsite disposal of earthen material. No payment will be made for excavation or fill placement that does not conform to the design.

Payment shall include, but not be limited to, channel and floodplain excavation, excavation support, incidental fill placement, moisture conditioning, fine grading, dust (no water will be available on site), water control, loading, transport, onsite disposal, and all incidental work.

Bid Item No.7, Topsoil Salvage and Placement (Lump Sum): Payment to be made under this bid item shall be for over-excavation and backfilling with 6-inch layer of topsoil salvaged onsite. Payment shall include, but is not limited to over-excavation to subgrade, segregation, stockpiling and placement of topsoil, compaction, moisture conditioning, final grading, and all incidental work.

Bid Item No. 8, Class 2 Aggregate Base (Lump Sum): Payment to be made under this bid item shall include, but not be limited to, procurement, transport, and installation of Class 2 Aggregate Base to the lines and grades shown on the Drawings and described in these Specifications complete and in place. The Contractor is responsible for estimated required tonnage of aggregate base. For bidding purposes, the Contractor shall assume the minimum quantity required is 200 tons.

Bid Item No. 9, 200-lb Stone (Lump Sum): Payment to be made at the lump sum price for installation of 200-lb Stone as shown on the Drawings. Work shall include, but not be limited to, procurement, transport, and installation of 200-lb Stone to the lines and grades shown on the Drawings and described in these Specifications complete and in place. The Contractor is responsible for estimated required tonnage of 200-lb stone. For bidding purposes, the Contractor shall assume the minimum quantity required is 140 tons.

Bid Item 10, Planted Cobble Transition (Lump Sum): Payment to be made at the lump sum price for installation of planted cobble transition as show on the Drawings. The Contractor is responsible for estimated quantities of all materials. For bidding purposes, the Contractor shall assume the minimum quantity of imported cobble is 100 tons. Work under this bid item shall include, but not be limited to, procurement, transport, and installation of the cobble, filling of voids with native material and installing planting tubes to the lines and grades shown on the Drawings and described in these Specifications complete and in-place. Note that the Revegetation Contractor will provide and install plant material.

Bid Items 11 & 12, Habitat Large Wood Structure and Low Profile Wood Structure (Lump Sum): Payment to be made at the lump sum price. Work shall consist of procurement, transport, installation of logs and rock, and other materials and incidental work as shown on the Drawings and described in these Specifications complete and in-place. Note that the Revegetation Contractor will supply live plant materials and labor to install it concurrently with wood structure installation.

Bid Item No. 13, Willow Baffles (Lump Sum): Payment to be made at the lump sum price, complete and in-place. Work shall include, but not be limited to, supplying all equipment, labor, and materials including (except for willow procurement and installation): excavation, backfill, and anchor rock placement. Contractor is responsible

for watering willow baffles from the time of installation through November 15, 2019. No water will be available onsite and will have to be trucked in. Note that the Revegetation Contractor will supply live plant materials and labor to install it concurrently with willow baffle installation and be responsible for watering after November 15, 2019.

Bid Item No. 14, Brush Mat (Lump Sum): Payment to be made at the lump sum price for installation of Brush Mat as shown on the Drawings. Contractor to supply quarried rock material and equipment and one (1) operator for trench excavation, minor grading, and gravel installation in conjunction with work carried out by Revegetation Contractor. Contractor is responsible for watering (no water is available onsite and would need to be trucked in) brush mat from the time of installation through November 15, 2019. Note that the Revegetation Contractor will supply all other materials and labor for installation concurrently with the excavator's work and will provide watering after November 15, 2019.

Bid Item No. 15, Erosion Control Fabric (Lump Sum): Payment to be made at the lump sum price for installation of erosion control fabric as shown on the Drawings. The Contractor is responsible for estimated quantities of all materials. For bidding purposes, the Contractor shall assume a minimum of 4600 square yard (SY) of fabric will be installed. Work shall include, but not be limited to, supplying all materials, equipment and labor for installation of erosion control fabric as shown on the Drawings, described in these Specifications and needed for SWPPP Compliance, complete and in-place.

Bid Item No. 16, Fiber Rolls (Lump Sum): Payment to be made at the lump sum price for work shown on the Drawings. The Contractor is responsible for estimated quantities of all materials. For bidding purposes, the Contractor shall assume a minimum of 18,600 linear foot (LF) of fiber roll shall be installed. Work shall include, but not be limited to, supplying all materials, equipment and labor for installation of fiber rolls as shown on the Drawings, described in these Specifications and needed for SWPPP Compliance, complete and in-place.

Bid Items No. 17 & 18, Riparian Seeding and Upland Seeding (Lump Sum): Payment to be made at the lump sum price for work shown on the Drawings. The Contractor is responsible for estimated quantities of all materials. For bidding purposes, the Contractor shall assume a minimum of 2.2 acres of riparian seed mix and 6.7 acres of upland seed mix shall be installed. Work shall include, but not be limited to, supplying all materials, equipment and labor for installation of seed mixes as shown on the Drawings and described in these Specifications complete and in-place.

Bid Item 19, Western Well Decommissioning (Lump Sum): Payment to be made at the lump sum price for work shown on the Drawings and described in the Specifications. Work shall include, but not be limited to, supplying all materials, equipment and labor for obtaining a permit and decommissioning an existing onsite western water well within the grading area complete and in-place.

Bid Item 20, Field Engineering (Lump Sum): Payment to be made at the lump sum price for work shown on the Drawings and described in the Specifications. Work will include, but not limited to, all staking and surveying needed to achieve all lines, grades and dimensions shown on the Drawings and to perform post-construction surveys as required for Acceptance of the Work and to document post-construction conditions.

PART 2 – PRODUCTS - NOT USED

PART 3 – EXECUTION - NOT USED

*** END OF SECTION ***

SECTION 01 26 36

SUBMITTAL PROCEDURES

PART 1 – GENERAL

1.01 SUMMARY

- A. Section Includes: Administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

1.02 DEFINITIONS

- A. Action Submittals: Written and graphic information that requires Restoration Engineer's responsive action.
- B. Informational Submittals: Written information that does not require Restoration Engineer's responsive action. Submittals may be rejected for not complying with requirements.

1.03 SUBMITTAL PROCEDURES

- A. General:
 - 1. Electronic copies of CAD Drawings of the Contract Drawings will be provided by Restoration Engineer for Contractor's use in preparing submittals upon Contractor's request.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities and order of Work.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity so Work is not delayed.
 - 2. Coordinate transmittal of different types of submittals for related parts of the Work so processing and Restoration Engineer review will not be delayed or cause Work delays.
 - 3. Restoration Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Submittals Schedule: Comply with Construction Schedule in the Contracting Requirements time requirements for scheduled performance of related construction activities and supply Owner's Representative with a schedule of submittals per these requirements.

- D. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Restoration Engineer's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
 - 1. Initial Review: Allow 5 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Restoration Engineer will advise Contractor when a submittal being processed must be delayed for coordination.
 - 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 - 3. Resubmittal Review: Allow 5 days for review of each resubmittal.
- E. Identification: Place a permanent label or title block on each submittal for identification.
 - 1. Indicate name of firm or entity that prepared each submittal on label or title block.
 - 2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Restoration Engineer.
 - 3. Include the following information on label for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name and address of Restoration Engineer.
 - d. Name and address of Contractor.
 - e. Name and address of subcontractor.
 - f. Name and address of supplier.
 - g. Name of manufacturer.
 - h. Submittal number or other unique identifier, including revision identifier. Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 06100.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 06100.01.A).
 - i. Number and title of appropriate Specification Section.
 - j. Drawing number and detail references, as appropriate.
 - k. Location(s) where product is to be installed, as appropriate.

1. Other necessary identification.
- F. Deviations: Highlight, encircle, or otherwise specifically identify deviations from the Contract Documents on submittals.
 - G. Additional Copies: Unless additional copies are required for final submittal, and unless Restoration Engineer observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal. Additional copies submitted for maintenance manuals will not be marked with action taken and will be returned.
 - H. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Submit directly to the Owner's Representative. Transmit each submittal using a transmittal form. Submittals received from sources other than Contractor will not be accepted.
 1. Transmittal Form: Use AIA Document G810, CSI Form 12.1A, or other standardized form approved by the Construction Manager and Restoration Engineer.
 2. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Restoration Engineer on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same label information as related submittal.
 - I. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
 1. Note date and content of previous submittal.
 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 3. Resubmit submittals until they are marked "No Exception", or "No Exception as Noted".
 - J. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities and permit requirements. Show distribution list on transmittal forms.
 - K. Use for Construction: Use only final submittals with mark indicating approval by Restoration Engineer.

PART 2 – PRODUCTS

2.01 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required by individual Specification Sections.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 - 1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
 - 2. Mark each copy of each submittal to show which products and options are applicable.
 - 3. Include the following information, as applicable:
 - a. Manufacturer's written recommendations.
 - b. Manufacturer's product specifications.
 - c. Manufacturer's installation instructions.
 - d. Standard color charts.
 - e. Manufacturer's catalog cuts.
 - f. Wiring diagrams showing factory-installed wiring.
 - g. Printed performance curves.
 - h. Operational range diagrams.
 - i. Mill reports.
 - j. Standard product operation and maintenance manuals.
 - k. Compliance with specified referenced standards.
 - l. Testing by recognized testing agency.
 - m. Application of testing agency labels and seals.
 - n. Notation of coordination requirements.
 - 4. Submit Product Data before or concurrent with Samples.
 - 5. Number of Copies: Submit seven copies of Product Data, unless otherwise indicated. Construction Manager will return two copies to Contractor. Mark up and retain one returned copy as a Project Record Document.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Dimensions.
 - b. Identification of products.
 - c. Fabrication and installation drawings.
 - d. Roughing-in and setting diagrams.
 - e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
 - f. Shop work manufacturing instructions.
 - g. Templates and patterns.
 - h. Schedules.
 - i. Design calculations.
 - j. Compliance with specified standards.
 - k. Notation of coordination requirements.
 - l. Notation of dimensions established by field measurement.
 - m. Relationship to adjoining construction clearly indicated.
 - n. Seal and signature of professional Restoration Engineer if specified.
 - o. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 40 inches.
 3. Number of Copies: Submit seven opaque (bond) copies of each submittal unless otherwise indicated. Construction Manager will return two copies to Contractor. Mark up and retain one returned copy as a Project Record Document.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple related components such as accessories together in one submittal package.
 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.

- c. Sample source.
 - d. Number and title of appropriate Specification Section.
 - 3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
 - 4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit one full set of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Restoration Engineer will return submittal with options selected.
 - 5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Number of Samples: Submit four sets of Samples unless otherwise specified in individual specification Section. Construction Manager will return one sample to Contractor.
 - b. Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - c. If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- E. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish

products or equipment fabricated to a special design. Include the following information in tabular form:

1. Name, address, and telephone number of entity performing subcontract or supplying products.
2. Number and title of related Specification Section(s) covered by subcontract.
3. Drawing number and detail references, as appropriate, covered by subcontract.
4. Number of Copies: Submit three copies of subcontractor list, unless otherwise indicated. Restoration Engineer will return two copies. Mark up and retain one returned copy as a Project Record Document.

2.02 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit Informational Submittals required by other Specification Sections.
 1. Number of Copies: Submit three copies of each submittal unless otherwise indicated. Restoration Engineer will not return copies.
 2. Certificates and Certifications: Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
- B. Contractor's Construction Schedule: Comply with requirements specified in the Contracting Requirements and General Conditions.
- C. Product and Material Certificates: Prepare written statements on manufacturer's letterhead certifying that product or material complies with requirements in the Contract Documents.
- D. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- E. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- F. Preconstruction Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of

tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

- G. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- H. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:
 - 1. Preparation of substrates.
 - 2. Required substrate tolerances.
 - 3. Sequence of installation or erection.
 - 4. Required installation tolerances.
 - 5. Required adjustments.
 - 6. Recommendations for cleaning and protection.
- I. Post-construction Surveys and Monitoring Points: Compile post-construction surveys and cross sections and monitoring point data in electronic format as CAD and Excel point files.

PART 3 – PART 3 – EXECUTION

3.01 CONTRACTOR'S REVIEW

- A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to the Owner.
 - 1. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.02 RESTORATION ENGINEER'S ACTION

- A. General: Restoration Engineer will not review submittals that do not bear Contractor's approval stamp and will return them without action.

- B. Action Submittals: Restoration Engineer will review each submittal, make marks to indicate corrections or modifications required, and return it. Restoration Engineer will stamp each submittal with an action stamp and will mark appropriately to indicate action taken.
- C. Informational Submittals: Restoration Engineer will review each submittal and will not return it, or will return it if it does not comply with requirements. Restoration Engineer will forward each submittal to appropriate party.
- D. Partial submittals are not acceptable, will be considered nonresponsive, and will be returned without review.
- E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

*** END OF SECTION ***

SECTION 01 31 19
PROJECT MEETINGS

PART 1 – GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Contractor participation in preconstruction conference.
 - 2. Contractor administration of progress meetings.
- B. Related Sections:
 - 1. Section 01 26 36 - Submittal Procedures
 - 2. Section 01 71 70 - Closeout Procedures

1.02 PRECONSTRUCTION CONFERENCES

- A. Owner's Representative will administer preconstruction conference for the purpose of executing Owner-Contractor agreement and exchange of preliminary submittals.
- B. Owner's Representative will administer site mobilization conference at Project site for clarification of Owner and Contractor responsibilities in use of site and for review of administrative procedures, Contract Documents, standards, correspondence, and submittal requirements.
 - 1. Personnel present at this meeting are the Owner's Representative, Restoration Engineer, Landowner, Contractor, Job Superintendent, and the major subcontractors and their foremen or superintendent who will be working on the site.
 - 2. Contractor shall be prepared to discuss timing, procedures for smooth job progress, items requiring clarification, distribution of documents, and correspondence with Owner's Representative.

1.02 PROGRESS MEETINGS

- A. Contractor shall schedule and administer Project meetings throughout progress of the Work at weekly intervals and other meetings as needed throughout construction.

1. Contractor shall prepare agenda with copies for participants, preside at meetings, record minutes, and distribute copies of meeting minutes within three days to Owner's Representative, Restoration Engineer, Landowner, and those affected by decisions made at meetings.
 2. Attendance: Contractor's Job superintendent, major subcontractors and suppliers, Owner's Representative, Restoration Engineer and Landowner as appropriate to agenda topics for each meeting.
 3. Suggested Agenda: Review of Work progress, status of progress schedule and adjustments thereto, delivery schedules, submittals, maintenance of quality standards, coordination with other Work on site, pending changes and substitutions, and other items affecting progress of Work.
- B. The Contractor shall prepare and distribute meeting minutes to the Owner's Representative and other attendees as requested following each meeting. Meeting minutes shall include a running list of action items for the Contractor. Contents of minutes do not constitute a part of the Contract Documents. Contract requirements can only be amended by Change Order.

1.03 ENVIRONMENTAL EDUCATION MEETINGS

- A. Each time new workers and/or subcontractors come onto the jobsite for the first time; Contractor shall convene a meeting prior to them commencing any work.
- B. Required attendees include jobsite superintendents, foremen, laborers, and any other workers performing, observing, or directing Work.
- C. Environmental Education meetings will discuss wildlife identification and permit restrictions for environmental protection and required notification if sensitive wildlife species are encountered.

PART 2 – PRODUCTS - NOT USED

PART 3 – EXECUTION - NOT USED

*** END OF SECTION ***

SECTION 01 50 00

TEMPORARY FACILITIES

PART 1 – GENERAL

- A. Section Includes: Requirements for installation, maintenance, and removal of temporary utilities, facilities, controls, and construction aids during construction.

1.01 TEMPORARY UTILITIES

- A. General: Provide all necessary temporary electricity, gas, sanitary facilities, and water required during construction (no water available at site), including all necessary temporary meters, equipment, wiring, piping, fixtures, and connections. Remove the same prior to completion of Project.
- B. Temporary Electricity: Provide temporary electrical service for power and lighting, including the furnishing and installation of meters at an approved location. Tools, Cords, and Electrical Equipment: Conform with Underwriters Laboratories standards and Cal-OSHA and be in proper working order to preclude hazard to persons and premises.
- C. Temporary Fire Protection: Comply with NFPA 241. Provide an adequate number and type of fire extinguishers at the jobsite. During the progress of any work requiring the use of welding and cutting equipment or heat-, flame-, or spark-producing devices, provide in the immediate area accessible for use an adequate number of fire extinguishers, shields, guards, or coverings placed so as to protect adjacent persons and property.
- D. Temporary Water: Provide water service by water truck for required construction operations and irrigating willow baffles and brush mats. The onsite eastern well is a potential but is not a guaranteed source of water due to timing of well upgrades and well capacity for temporary water needed.

1.03 CONSTRUCTION FACILITIES

- A. Contractor's Field Office: Provide and maintain a temporary space on the site for the Contractor's use with the necessary facilities for communication and to store project documentation.
- B. Temporary Storage for Tools, Materials, and Equipment: Provide temporary storage sheds or other enclosed temporary structures as required or as deemed necessary by the Contractor to protect material and equipment stored on site including proper storage of regulated materials. Remove the same prior to completion of Project.

- C. Temporary Sanitary Facilities: Provide and maintain adequate toilets, washing facilities, and drinking facilities for workers. Such items shall comply with all governing health and sanitation requirements. Remove the same upon completion of Project.
- D. Contractor shall not use any existing facilities, structures, improvements or other property of the Landowner.

1.04 TEMPORARY BARRIERS AND ENCLOSURES

- A. General Protection: Provide all temporary barricades, fences, caution signs, and warning lights as required for the safety of persons. Operate warning lights during hours from dusk to dawn each day. Install "Right Turn Only" signs as needed. Take whatever care is necessary to avoid damage to adjacent buildings and property, public right-of-ways, and facilities or utilities to remain, whether on the Project or adjacent to it, and be liable for any damage thereto or interruption of service due to Contractor's operations.
- B. Temporary Fences and Barricades: Provide and maintain all temporary site fences, wildlife exclusion fencing, tree protection fencing, and barricades as required for the Project, and remove the same upon the completion of the Project.

1.05 SITE MAINTENANCE

- A. Cleaning During Construction:
 - 1. Control accumulation of waste materials and rubbish; periodically dispose of waste materials legally off-site (weekly at a minimum).
 - 2. Clean interior areas prior to start of finish work; maintain areas free of dust and other contaminants during finishing operations.

1.07 REMOVAL

- A. Remove temporary facilities, fencing, materials, equipment, services, and construction prior to Substantial Completion inspection.
- B. Clean and repair damage caused by installation or use of temporary facilities. Remove temporary underground lines and installations; grade site as indicated. Restore existing facilities used during construction to specified, or to original, condition.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Temporary materials and equipment may be new or used, but shall be adequate in capacity for the required usage, shall not create unsafe conditions, and shall not violate requirements of applicable codes and standards.
- B. Hazardous or Flammable Chemicals: Use and store hazardous or flammable chemical liquids or gases brought into the Project site in acceptable containers conforming to requirements of OSHA. Use such materials in a manner that will prevent their accidental release into other areas. Do not discard such materials on the jobsite. Remove empty containers from premises immediately and dispose of in the proper manner.

PART 3 – EXECUTION (NOT USED)

*** END OF SECTION ***

SECTION 01 57 19

ENVIRONMENTAL PROTECTION

PART 1 – GENERAL

1.01 SUMMARY

- A. This section describes environmental protection measures to be applied throughout the duration of the Project, including the following:
 - 1. Preparation and implementation of the Stormwater Pollution Prevention Plan (SWPPP)
 - 2. Sediment and Erosion Control
 - 3. Dust Control
 - 4. Noise Control
 - 5. Wildlife Protection
 - 6. Cultural and Prehistoric Resources
- B. General Requirements: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

1.02 RELATED WORK

- 1. Section 02 10 00: Mobilization
- 2. Section 31 23 00: Earthwork

1.03 GENERAL

- A. Permits obtained for this project include specific requirements for sediment, erosion, water and pollution control and wildlife protection which shall be adhered to at all times. See Appendix A copies of project permits obtained by the Owner and Section 02 10 00, Mobilization for other permit compliance requirements.

1.04 STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

- A. The Contractor shall develop, maintain and implement a SWPPP that describes the proposed methods of erosion and sediment control for the work. At a minimum, the plan shall include:
1. Written and graphic description of SWPPP components.
 2. Monitoring and Reporting Program (M&RP)
 3. A description of actions to minimize turbidity and limit migration of sediment during work in the active channel
 4. Figures showing the design and location of the designated fueling area.
 5. A fuel and oil spill prevention plan and emergency clean-up plan.
 6. Incorporation of all permitting requirements regarding scheduling, sequencing, methods and performance standards for erosion, sediment and water pollution control.
 7. Training and monitoring procedures.
- B. At a minimum, the SWPPP shall include compliance with the erosion control measures specified in these Contract Documents (shown on the Drawings and/or included in Section 31 25 00 Erosion Control).
- C. The Contractor shall select and implement additional Best Management Practices (BMPs) that are appropriate for the site and the Contractor's actual methods of construction, access and project phasing. The BMPs included in the SWPPP shall be selected in conformance with the SWRCB BMPs Construction Practice Handbook.
- D. The SWPPP and the Contractor's erosion and sediment control measures shall comply with the newest SWRCB Construction Storm Water Program effective July 1, 2010.
http://www.swrcb.ca.gov/water_issues/programs/stormwater/constpermits.shtml The Contractor's plan shall be prepared by a Qualified SWPPP Developer (QSD). The Contractor shall assume that the site has a Risk Level 2. Additional information on Monitoring and Reporting requirements for Risk Level 2 sites is provided in Appendix B (as excerpted from the SWRCB website).
- E. The Contractor's detailed plan shall be submitted within seven (7) working days of the Notice to Proceed. The Contractor shall revise and resubmit the SWPPP as noted by the Owner's Representative. The Contractor shall not mobilize to the site until the SWPPP has been approved in writing by the Owner's Representative.

- F. The Contractor shall not deviate from the approved plan unless a revised plan has been approved in writing by the Owner's Representative. Failure to adhere to an approved plan that demonstrates conformance with the provisions of the Contract shall be cause for rejection of Contractor's request for payment until the plan has been brought into conformance.
- G. The Contractor shall keep a copy of the SWPPP onsite at all times during construction. The Contractor shall regularly update the SWPPP as needed to respond to site-specific conditions.

1.05 NPDES GENERAL PERMIT COMPLIANCE

- A. The Contractor shall prepare the Notice of Intent (NOI) to the State Water Resources Control Board (SWRCB) to obtain coverage under the SWRCB General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (NPDES General Permit). The Contractor shall provide the NOI and all associated documents to the Owner for submittal using the SWRCB's Storm Water Multi-Application and Report Tracking (SMARTs) system. The Contractor shall not begin any Work at the site until the NOI has been submitted.
- B. Contractor shall prepare inspection reports as required by the SWRCB for review by Owner's Representative. Following favorable review by Owner's Representative, the Contractor shall submit inspection reports to the SWRCB and other agencies as required.
- C. Upon Substantial Completion of the project, Contractor shall prepare and submit the Notice of Termination (NOT) and all associated documents to the Owner for submittal using the SWRCB's SMART system. Substantial Completion is defined as completion of all work, including punchlist items, except erosion control maintenance.
- D. For bidding purposes, the Contractor shall anticipate that at least three (3) rain events will occur during the construction period and the Contractor will be required to perform monitoring, sampling and analysis and reporting in accordance with the M&RP.
- E. The Contractor may assume that compliance with the M&RP will not be required throughout the erosion control maintenance period, provided that (a) the NOT has been submitted by the Owner, and (b) the project has been accepted by the Owner as Substantially Complete.

1.06 SEDIMENT AND EROSION CONTROL

- A. The Contractor shall install and maintain erosion and sediment control measures as needed to mitigate the potential for sediment tracking off site, into waterways, and outside of the work area.

- B. At a minimum, the Contractor shall comply with the requirements of this section and the related sections of these Technical Specifications. The Contractor shall modify and enhance these measures to meet permitting requirements and/or as needed to mitigate sediment migration at no additional expense to the Owner.
- C. Comply with specific measures for sediment and erosion control as described in Section 31 25 00 Erosion Control of the Technical Specifications.

1.07 NON-STORM WATER CONTROL

- A. The Contractor shall designate one (1) fueling and wash area within the staging areas. The Contractor shall only perform fueling, maintenance and emergency repair of vehicles and equipment within the designated fueling area or offsite.
- B. The designated fueling and wash area shall be constructed to provide containment of any spills and to prevent any waste from contacting and penetrating the ground by use of methods such as berms and/or liners. The Contractor shall include details of its fueling and wash area in the SWPPP.
- C. Inspect all equipment for leaks immediately prior to the start of construction, and regularly thereafter until equipment is removed from the site. Equipment repair (other than emergency repairs) shall be performed offsite.
- D. Any hazardous materials and/or hazardous substances that the Contractor deems necessary for performance of the work shall be stored, used and contained within the fueling and wash area. Dispose of all contaminated water, sludge, spill residue, or other hazardous compounds offsite at a lawfully permitted or authorized facility.
- E. Clean up any accidental leaks or spills immediately and remove any contaminated soils or other materials offsite. Dispose offsite in accordance with all applicable laws. The Contractor's plan and contingency measures for preventing and cleanup of accidental spills shall be detailed in the SWPPP. At a minimum, the Contractor shall maintain onsite a spill kit for emergency cleanup throughout the life of the project.
- F. Immediately notify the Owner's Representative in the event of any spill or release of any chemical in any physical form on or immediately adjacent to the Chorro Creek during construction.
- G. Upon the Contractor's removal and cleanup of the designated fueling area, the Owner's Representative may sample and analyze underlying soil for petroleum hydrocarbons and/or other chemical constituents as appropriate to determine if any contamination has occurred. The Contractor shall be solely responsible for all costs incurred in removing any contamination caused by its activities. This includes, but is not limited to, contamination caused by accidental spills or leaks, wheel tracking, water runoff, water run on and erosion.

1.08 DUST CONTROL

- A. During the performance of all work under the Contract Documents, the Contractor shall employ conscientious and effective means of dust control. The Contractor shall assume responsibility for all damages, delays, government-imposed penalties or fines, and claims that result from the Contractor's dust control practices. Comply the San Luis Obispo County Air Pollution Control District (SLO County APCD) published guidelines.
- B. Dust control activities will primarily be associated with soil excavation, backfill and compaction, hauling and transport loading operations; however, the Contractor's responsibility for dust control shall cover all the Contractor's operations and shall be continuous (even outside of business hours) throughout the duration of the project.
- C. At a minimum, the Contractor shall control dust using the following methods.
 - 1. Limit vehicle speeds to 15 miles per hour (mph) on unpaved roads.
 - 2. Water all active construction areas and access routes at least three times daily during dry and dusty conditions. No water is available at the site and would need to be trucked in.
 - 3. Water exposed soil surfaces, soil stockpiles, or other dust generation sites, at the frequency necessary to prohibit dust generation.
 - 4. Provide watering equipment capable of applying water to the point of dust generation.
 - 5. Use the minimum practicable drop heights during transport vehicle loading.
 - 6. Wash all equipment prior to delivery to the site, periodically during construction, and prior to leaving the site.
 - 7. To the extent practicable, equipment shall be selected and operated in a manner that minimizes dust generation.
 - 8. Maintain equipment engines in good condition and properly tuned (in accordance with manufacturer's specifications).
 - 9. Cover truckloads hauling earth offsite.
- D. Contingency Requirements
 - 1. If (1) observations or measurements made by the Contractor, Owner or regulatory agencies, or (2) complaint by the Landowner, adjacent residents

or businesses indicate the need for more stringent dust control measures, the Contractor shall perform the following:

- a. Increase the dosage of dust controls.
 - b. Increase the frequency of dust controls.
 - c. Apply commercial dust palliatives, subject to the approval by the Owner's Representative.
2. These measures shall be performed at no additional cost to the Owner and the Contractor shall include appropriate funds in the Contractor's Bid to cover such measures.
 3. If (1) sustained winds exceed 25 mph, (2) instantaneous gusts exceed 35 mph, or (3) dust from construction might obscure driver visibility on public roads, suspend all earthmoving activities.
 4. If further dust control measures are needed, the Contractor will be consulted and one of the following measures may be required, at the sole discretion of the Owner's Representative. If, through no fault of the Contractor, further dust control measures are required by the Owner's Representative, a Change Order will be negotiated for the following measures.
 - a. Suspension of certain of the Contractor's operations for more than 4 hours (anticipated only during abnormally high wind conditions).
 - b. Use of windscreens.
 - c. Enclosures of loading operations.
- E. Excessive Watering: Except as required by Owner's Representative, the Contractor shall not employ dust control methods which result in ponded water, erosion, or a material increase in the weight of excavated soil.

1.09 NOISE CONTROL

- A. Internal combustion engines shall be equipped with a muffler of a type recommended by the manufacturer. Equipment and trucks used for construction shall utilize the best available noise control techniques (e.g., engine enclosures, acoustically-attenuating shields or shrouds, intake silencers, ducts, etc.).
- B. Construction workers shall wear earplugs during operation of heavy equipment.
- C. Stationary noise sources and staging areas shall be located as far from sensitive receptors as possible.
- D. Signs shall be posted at the construction site that include and describe permitted construction days and hours, and a day and evening contact number for the job

site. A complaint and enforcement manager shall be appointed to respond to and track noise complaints.

1.10 WILDLIFE PROTECTION

- A. The project site and adjacent areas contain sensitive habitat areas for protected wildlife including:
1. California Red-legged Frog (*Rana draytonii*)
 2. Central California Coast Steelhead (*Oncorhynchus mykiss*)
- B. Comply with all permit requirements for wildlife protection per this section and Appendix A (Project Permits). Note that not all environmental permits are in hand and requirements may change based on actual permit requirements.
- C. The Owner's Biological Monitors will perform pre-construction surveys, environmental training, monitoring, and wildlife relocation as summarized in the table below. The Contractor shall cooperate with the Owner's Biological Monitor throughout construction and provide adequate notification to the Owner's Representative to allow sufficient time for required activities.

Activity	When
Red-legged Frog	
Pre-construction survey	Prior to beginning construction
Environmental training	Prior to beginning construction
Monitoring and relocation, if needed	During in-channel work
Fish (Steelhead)	
Pre-construction survey	Prior to dewatering
Environmental training	Prior to dewatering
Monitoring and relocation, if needed	During dewatering

- D. Prior to the start of construction, the Biological Monitor will conduct pre-construction red-legged frog surveys of the construction site. Provide 20 calendar days notice prior to mobilizing to the site. The Contractor shall not start construction until the area has been cleared for wildlife.
- E. Fish Relocation: Prior to any flow diversion and/or dewatering of the construction area in the active channel, all native aquatic vertebrates and larger invertebrates in the construction areas will be moved by the Owner's Biological Monitor. See Section 31 23 00 Excavation and Fill for additional requirements for dewatering, flow diversion and aquatic resource protection.
- F. Contractor's Monitor: The Owner's Biological Monitor will be present for species surveys prior to construction, relocation (if needed), and Environmental

Awareness Training to Contractor. After this time, the Contractor will designate a person to monitor on-site compliance with all minimization measures that has received the proper training from the Owner's Biological Monitor. The on-site monitor shall notify the Owner's Representative immediately and halt any action that might result in harm to *California Red-legged frogs or Steelhead*. The Owner will notify USFWS immediately to determine the required course of action.

- G. The Contractor shall include in its construction schedule delay of construction activities as needed to allow the Biological Monitor to conduct initial surveys, periodic monitoring, wildlife relocation and other activities to ensure wildlife protection. Review permit requirements (Appendix A) to determine the anticipated length and frequency of construction delays due to biological monitoring.

1.11 WILDLIFE EDUCATION TRAINING

- A. The Owner or one of the Owner's Biological Monitors will conduct education programs for all construction personnel (a) prior to initiating construction and (b) prior to initiation of water diversion and/or dewatering activities. All construction personnel and subcontractors must complete the training before they are authorized to work in the project area.
- B. At a minimum, the training will include a description of each of the protected species, their importance, their habitat, a map of known occurrence within the project area, an explanation of the status of this species and its protection requirements, the conservation measures that are being implemented, and the work site boundaries within which construction may occur. A fact sheet conveying this information will be prepared for distribution to the above-mentioned people and anyone else who may enter the project site. Upon completion of the program, personnel will sign a form stating that they attended the program and understand all the avoidance and minimization measures.

1.12 FENCING AND MINIMUM WILDLIFE PROTECTION MEASURES

- A. The Contractor shall install wildlife exclusion fencing if directed by project permits, which have yet to be issued.
- B. At a minimum, the Contractor shall comply with the following measures for wildlife protection:
 - 1. Trash and waste material must be properly disposed of in trash receptacles that prevent the access or trapping of native animals. These containers shall be available and used at all times.
 - 2. Trash shall be removed from the site daily.

3. All equipment such as buckets, and open holes, trenches or items that may potentially trap sensitive animals must be covered by the end of each workday. (If this is not possible, one or more escape ramps constructed of earth fill or wooden planks will be established in the hole.)
4. Thoroughly inspect all holes or trenches for animals before filling. If at any time, a California red-legged frog or other wildlife is discovered trapped in a trench or pit, halt work and notify the Owner's Representative immediately.
5. Storage of any pipes measuring four (4) inches or greater in diameter at the site will be avoided, or the ends of any such pipes will be sealed with tape as they are brought to the site.
6. No cats or dogs or firearms (except for federal, state, or local law enforcement officers or security personnel) will be permitted onsite to avoid harassment, killing, or injuring of protected wildlife.
7. Erosion control fabric or wattles with plastic netting may not be used.
8. Lighting of the project site by artificial lighting during night time hours should be minimized to the maximum extent practicable.

1.13 CULTURAL AND PREHISTORIC RESOURCES

- A. The Contractor shall (1) suspend work in the area and (2) notify the Owner's Representative immediately, if evidence of any of the following are items encountered during performance of the Work:
 1. Archaeological artifacts
 2. Fossils
 3. Human remains
- B. Any delays in excess of 24 hours resulting from encountering cultural or prehistoric artifacts will be considered as a basis for a Change Order for contract time.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

*** END OF SECTION ***

SECTION 01 71 10
FIELD ENGINEERING

PART 1 – GENERAL

1.01 SUMMARY

- A. This Specification section describes the lines, grades, and survey control to be established and maintained by Contractor, and also describes the survey requirements to be performed by Contractor.

1.02 STAKING OUT OF WORK

- A. Lines and Grades: The Contractor is responsible for providing all staking and surveying needed to achieve all lines, grades and dimensions shown on the Drawings. Stakes and markers shall be provided as necessary to control the work and assure construction is in conformance with the Contract Documents and as otherwise directed by the Owner's Representative. The Contractor shall anticipate the site conditions (e.g. river flows, vandalism etc.) when developing its approach to maintaining construction staking.
- B. Equipment and Personnel: Contractor's instruments and other survey equipment shall be accurate, suitable for the surveys required in accordance with recognized professional standards, and in proper condition and adjustment at all times. Surveys shall be performed under the direct supervision of a surveyor licensed in the State of California.
- C. The Contractor shall use established survey benchmark data shown on the Drawings to layout the Work.
- D. Use by Owner: Owner or Owner's Representative may, at any time, use line and grade points and markers established by Contractor. Contractor's surveys are a part of the work and may be checked by Owner or Owner's Representative(s) or Restoration Engineer, at any time. Contractor shall be responsible for any lines, grades, or measurements which do not comply with specified or proper tolerances, or which are otherwise defective, and for any resultant defects in the work. Contractor will be required to conduct resurveys or check surveys to correct errors indicated by review of the field notebooks.
- E. Surveys for Layout and Performance: Contractor shall perform all surveys for layout and performance of the work, shall reduce the field notes, and make all calculations and drawings necessary to carry out such work. See Section 1.03 B below for survey requirements. Survey is for design conformance and final acceptance.

1.03 GENERAL SURVEY REQUIREMENTS

- A. The Contractor shall perform post-construction surveys as required for Acceptance of the Work and to document post-construction conditions. The Contractor also has the option to perform pre-construction surveys as described in Paragraphs 1.04 of this section.
- B. The following requirements apply to all surveys performed by the Contractor.
 - 1. Licensed Surveyor: All surveys, computations and supporting drawings shall be prepared at the Contractor's expense by a Survey Contractor whose equipment and work force are independent of the Contractor's. All surveys and computations shall be performed under the supervision of a Land Surveyor registered in the State of California and actively engaged in surveying during the last five (5) years. The Land Surveyor shall provide references to confirm completion of at least three (3) similar projects in the last five (5) years. The name and State Land Surveyor's license number shall be submitted to the Owner's Representative at least five (5) calendar days prior to commencement of survey work for the Owner's Representative's approval. The Contractor shall provide a letter of certification signed by the licensed Surveyor.
 - 2. For survey transects, elevations shall be taken at breaks in slope and at intervals not greater than ten (10) feet. Surveys shall extend at least 10 feet beyond the limits of earthwork (excavation and/or fill). Survey transects shall be completed at locations that are representative of existing grade and shall not exceed 30-foot spacing (between transects). Surveyed grade points shall be provided to the Owner as an electronic point file of Northings, Eastings, and Elevations relative to NAVD88 and the project control (NAD83 CA SP Zone 5 (ft)) to the nearest one-tenth of a foot in Excel and CAD formats.
 - 3. Plan view drawings shall be prepared at a scale of 1 inch=30 feet. Section plots shall be prepared with a horizontal axis at a scale of 1"=30 feet and no vertical exaggeration. For pre-construction surveys, section plots shall include the design section used for quantity calculations.
 - 4. Survey sections shall be taken at the minimum intervals as stated below. The interval between sections may be reduced if, at the discretion of the Owner's Representative, through surveys, earthwork is consistently found to be out of compliance with design requirements.
 - 5. Subsequent surveys shall re-occupy the same lines so the surveys and quantities can be directly compared.
- C. The Owner's Representative may elect to substitute the Contractor's survey with its own survey. The Owner's Representative will select the survey that will govern at its sole discretion.

1.04 PRE-CONSTRUCTION SURVEYS

- A. Prior to commencing earthwork, the Contractor has the option of performing a preconstruction topographic survey to establish existing grades at the site. If the Contractor does not perform a pre-construction survey, it agrees to waive any claims regarding the survey data provided.
- B. At a minimum, the pre-construction survey shall comply with the requirements for the post-construction survey per this section.

1.05 POST-CONSTRUCTION SURVEYS

- A. The Contractor shall perform post-construction surveys as needed to demonstrate design compliance and request Acceptance of Work.
- B. Minimum requirements for post-construction surveys are as follows:
 - 1. All excavated areas, including secondary channels, and floodplain excavation: Sections perpendicular to the design channel baseline (or other approved baseline) with
 - a. a maximum distance of 30 feet between sections,
 - b. extending 40 feet beyond the top of bank on both banks of the creek,
 - c. survey points recorded at each break in slope.
 - 2. Fill Placement Area: sufficient topographical information to define the top and toe of slope of the fill placement area. Survey to extend a minimum of 20 feet outside of fill placement limits.
 - 3. At the direction of the Owner's Representative, the Contractor shall establish and survey in, temporary up to ten (10) monitoring points and end points for up to ten (10) cross sections.
- C. One complete set of reproducible survey drawings shall be prepared after each survey. Drawings shall be prepared at the same scale as corresponding detail sheets in the Drawings. The drawings shall show survey points in legible font. The base sheets shall also show the control points and grade break-lines on the Drawings. The Owner's Representative will provide hard copy reproducible or electronic files of the plan sheet Drawings if requested by the Contractor. The Contractor shall also prepare cross section drawings corresponding with survey lines, to scale.
- D. The Contractor shall submit three (3) hard copy sets of post-construction survey and any calculations to the Owner's Representative for review and approval, and electronic files, including tin surface (in AutoCAD, Civil 3D, version 2013 or later). The Contractor shall allow fourteen (14) calendar days for the Owner's Representative to review. The Contractor shall not consider any earthwork

complete until he/she has received the Owner's Representative's written approval of the post-construction survey.

- E. The Contractor may submit post-construction survey results for review and approval in phases as it completes the work. If survey results are submitted in phases, the Contractor shall compile all data, drawings and computations and make one final complete submittal to the Owner's Representative upon completion of the work.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

*** END OF SECTION ***

SECTION 01 71 70
CLOSEOUT PROCEDURES

PART 1 – GENERAL

1.01 SUMMARY

- A. Section Includes: Closeout procedures, final submittals, final cleaning and adjusting, Project Record Documents, submittal of operation and maintenance data, and warranties and bonds.
- B. Related Sections:
 - 1. Section 01 50 00 - Temporary Facilities

1.02 SUBSTANTIAL COMPLETION

- A. Substantial Completion shall mean completion of all work in the Contract Documents, except maintenance of erosion control BMPs throughout the maintenance period.
- B. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following (list items below that are incomplete in request):
 - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 - 2. Advise Owner of pending insurance changeover requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 5. Prepare and submit Project Record Documents, damage or settlement surveys, property surveys, and similar final record information.
 - 6. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 - 7. Complete final cleaning requirements.

8. Restore disturbed areas including staging areas and access routes within and to the site.
- C. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Owner's Representative will either proceed with inspection or notify Contractor of unfulfilled requirements. Owner's Representative will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Owner's Representative that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 2. Results of completed inspection will form the basis of requirements for Final Completion.

1.03 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
1. Submit a final Application for Payment.
 2. Submit certified copy of Owner's Representative's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Owner's Representative. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Instruct Owner's and/or Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Provide services of skilled and competent supervisory personnel to instruct the Owner's and/or Owner's personnel in the operation and maintenance of all operating equipment and systems provided as part of the Contract.
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Owner's Representative will either proceed with inspection or notify Contractor of unfulfilled requirements. Owner's Representative will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.04 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- C. Preparation: Submit three copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
 - 1. Organize items applying to each work area.
 - 2. Include the following information at the top of each page:
 - a. Project name.
 - b. Date.
 - c. Name of Owner's Representative.
 - d. Name of Contractor.
 - e. Page number.

1.05 PROJECT RECORD DOCUMENTS

- A. Maintain on the site one set of the following Record Documents to record actual revisions to the Work.
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other Modifications to the Contract.
 - 5. Reviewed shop drawings, product data and submittals.
- B. Store Record Documents separate from documents used for construction. Record information concurrent with construction progress.
- C. Record Drawings: Do not permanently conceal any work until required information has been recorded. Legibly mark each item to record actual construction including:
 - 1. Measured elevations of channel invert, shown on channel profile.
 - 2. Measured horizontal and vertical locations of channel structures and underground utilities and appurtenances, referenced to permanent surface improvements.
 - 3. Field changes of dimension and detail.
 - 4. Details not on original Contract Drawings.

5. Deviations from sizes, locations, and other changes to installation as shown on the Contract Documents.
 6. Established locations of underground work, points of connection with existing utilities, changes in direction of underground lines, locations of valves, manholes, etc.
 7. Locations of all items not concealed which Contractor elects to vary from Contract Documents, with Owner's Representative's prior review/approval.
- D. Specifications: Legibly mark and record at each Product section a description of actual Products installed, including the following:
1. Manufacturer's name and product model and number.
 2. Product substitutions or alternates utilized.
 3. Changes made by Addenda and Modifications with corresponding Addenda or Modification number.
- E. Submit all Record Documents to Owner's Representative with claim for Substantial Completion inspection. Submit documents with a transmittal letter containing date, Project title, Contractor's name and address, list of documents, and signature of Contractor.
- F. The Owner's Representative will return Contract Drawings Record Documents to the Contractor who shall transfer all information onto a set of reproducible prints for the Owner's use. The reproducible prints will be provided by the Owner.
- G. Owner will not make Final Payment to Contractor until the Record Documents are provided by the Contractor.

1.06 WARRANTIES AND BONDS

- A. Provide duplicate notarized copies. Execute and assemble documents from Contractor's submittals and documents executed by subcontractors, suppliers, and manufacturers. Provide table of contents and assemble in three (3) D side ring binder with durable plastic cover.
- B. Submit warranties and bonds prior to final Application for Payment.
1. For equipment put into use with Owner's permission during construction, submit within 10 days after first operation.
 2. On request of Owner's Representative, for designated portions of the Work, submit within 10 days of commencement of warranty.

3. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within ten days after acceptance, listing date of acceptance as start of warranty period.
- C. The General Conditions of the Contract cover the Contractor's responsibility to remedy defects due to faulty workmanship and materials which appear within one (1) year from the Date of Acceptance. Warranties for more than one (1) year, where indicated in the various sections of the Specifications, shall be in the form of a warranty written on the letterhead of the Contractor, subcontractor, or supplier doing the work or supplying the item to be warranted, as follows:

WARRANTY FOR CHORRO CREEK ECOLOGICAL RESERVE FLOODPLAIN RESTORATION:

We hereby warrant that the WORK which we have installed in SAN LUIS OBISPO COUNTY, CALIFORNIA for MBNEP, has been done in accordance with the Drawings and Specifications, and that the work, as installed, will fulfill the requirements of the warranty included in the Specifications. We agree to repair or replace any or all of our work, together with any other and adjacent work which may be displaced by so doing, that may prove to be defective in its workmanship or material within a period of 1 year(s) from the Date of Acceptance of the above named Project, without any expenses whatsoever to the Owner, ordinary wear and tear and unusual abuse or neglect excepted.

In the event of our failure to comply with the above-mentioned conditions within a reasonable time, but in no event longer than thirty (30) days after being notified in writing by the Owner, we, collectively or separately, do hereby authorize the Owner to proceed to have said defects repaired and made good at our expense, and we will honor and pay the costs and charges therefor upon demand.

Signed _____
Subcontractor/Supplier

Date

Countersigned _____
Contractor

Date

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION

3.01 FINAL CLEANING

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
 - 1. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including grading and staging areas, of rubbish, waste material, litter, and other foreign substances.
 - 2. Remove tools, construction equipment, machinery, and surplus material from Project site.
- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.
- D. Remove tools, surplus materials, equipment, temporary buildings, sheds, and construction facilities from the site.

*** END OF SECTION ***

SECTION 02 10 00

MOBILIZATION

PART 1 – GENERAL

1.01 SUMMARY

- A. Mobilization shall consist of the following work:
 - 1. Mobilization of materials and equipment to the site.
 - 2. Preparation of all necessary permits, submittals, notifications and other documentation.
 - 3. Temporary Creek Crossing.
 - 4. Identification and protection of existing utilities.
 - 5. Protecting existing vegetation and erecting fences as necessary.
 - 6. Site surveys including post-construction survey.
 - 7. Demobilization of all of materials and equipment from the site.
 - 8. Any other items required to complete the construction not otherwise measured and paid for.

1.02 RELATED WORK

- A. Standard Specifications
- B. Section 00 73 14 - APA – APPENDIX A: PROJECT PERMITS
- C. Section 01 57 19 - ENVIRONMENTAL PROTECTION
- D. Section 01 71 10 – FIELD ENGINEERING
- E. Section 31 23 00 - EXCAVATION AND FILL

PART 2 – PRODUCTS - NOT USED

PART 3 – EXECUTION

3.01 MOBILIZATION AND DEMOBILIZATION

- A. Mobilization and demobilization shall conform to Section 11 of the Standard Specifications except as modified herein. Delete Sections 11-1.02A. through 11-1.02E. of the Standard Specifications.
- B. Mobilization shall also include finish work and operations (demobilization) including, but not limited to, removal of personnel, equipment, supplies and incidentals from the project site and clean-up of the project site. The Contractor shall not demobilize equipment from the site until the project is accepted as complete, unless directed otherwise in writing by the Owner's Representative.
- C. Mobilization shall also include preparation of all necessary permits, submittals, notifications and other documentation necessary for the performance of the work. See also Section 01 57 19 Environmental Protection.
- D. Contractor shall clean all equipment of dirt, mud, and plant material prior to entering the work areas to prevent the introduction of invasive exotic species. Equipment and materials may be inspected by Owner's Representative prior to allowing equipment and materials on site.

3.02 PERMITS OBTAINED BY THE OWNER AND LANDOWNER

- A. The Owner will obtain the following permits for this project:
 - 1. San Luis Obispo Minor Use Development PermitThe Landowner will obtain the following permits for this project:
 - 1. U.S. Army Corps of Engineers – Regional General Permit 78
 - 2. California Regional Water Quality Control Board - Section 401
 - 3. California Department of Fish and Game - Streambed Alteration Agreement No. 1601
- B. Copies of permits listed above are either included as Appendix A or will be provided upon receipt from the respective Agency and are considered part of these Contract Documents. The Contractor shall maintain a copy of all permits at the site throughout construction.
- C. The Landowner has prepared an Initial Study Mitigated Negative Declaration (MND) for this project. A copy of the MND is available to the Contractor upon request.

- D. The Contractor shall comply with all permit requirements for the project. These permits include restrictions on timing, methods, and duration of certain construction activities. The Contractor shall notify the Owner's Representative immediately of any discrepancy between project permits and Contract Documents.
- E. The Contractor shall obtain all other permits required for the performance of the work.

3.03 TEMPORARY CREEK CROSSINGS

- A. Contractor shall obtain approval from Owner's Representative for the Water Control Plan at least 21 days prior to crossing the channel, per Section 31 23 00 Excavation and Fill.
- B. The Contractor shall design and install a temporary construction access crossing of Chorro Creek for use throughout construction. Crossings shall be designed to prevent crossings from causing damage during creek flows.
- C. The temporary crossing shall allow safe vehicular traffic, be designed to not cause flooding, and contain any sediment or debris falling from vehicles.
- D. Upon project completion, the Contractor shall completely remove all placed materials and complete the earthwork and other construction in accordance with the Drawings and Specifications.

3.04 PROTECTION OF EXISTING PROPERTY AND CONDITIONS

- A. Protection of Work and Property:
 - 1. Confine the storage of materials and workmen's operations to the limits established on the Drawings and by law, permits, and/or directions of Owner's Representative. Do not unreasonably encumber the premises with materials.
 - 2. Contractor is responsible for the protection and preservation of all materials and equipment supplied of every description (including property which may be furnished or owned by Owner or by others) while such property is located on the construction site.
 - 3. Provide such watchman services as may be deemed necessary to safeguard properly all materials, tools, appliances, and work. The Owner will not assume any responsibility for the loss of or damage to materials, tools, appliances, or work arising from acts of theft, vandalism, malicious mischief, or other causes which may occur during or after working hours.
 - 4. Contractor shall promptly comply with all reasonable requests of the Owner's Representative and/or Landowner to specially protect such

property. If, as determined by Owner's Representative, such property and work are not adequately protected by Contractor, such property and work may be protected by Owner and the cost thereof may be charged to Contractor or deducted from payments then due or later becoming due.

5. Repair or replace all work performed or materials, supplies, or equipment furnished which may be damaged or lost by any cause, to the satisfaction of Owner's Representative without cost to Owner.
- B. Contractor shall be responsible for all damage to all roads, existing vegetation, existing buildings, utilities and other property and improvements resulting from its use and shall repair all damage resulting from such use at no cost to Owner.
- C. Contractor's Staging Area: Store construction materials and equipment within boundaries of designated staging and storage areas shown on the Drawings.
- D. Tree and Plant Protection:
1. Do not store materials or equipment, permit burning, or operate or park equipment under the branches of any existing plant to remain except as actually required for construction in those areas.
 2. Provide barricades, fences, or other barriers as necessary at the drip line to protect existing plants and trees from damage during construction.
 3. Refer to Section 31 11 00 Clearing, Grubbing, and Demolition for tree removal and salvage information.
 4. Notify Owner's Representative in any case where Contractor thinks grading or other construction called for by Contract Documents may damage existing plants/trees to remain.
 5. If existing plants to remain are damaged during construction, Contractor shall replace such plants with others of the same species and size as those damaged or at an acceptable ratio determined by the Owner and Restoration Engineer, at no cost to Owner. Determination of extent of damage and value of damaged plants shall rest solely with the Owner's Representative.

3.05 EXISTING UTILITIES

- A. The Contractor shall identify, locate, and protect all existing utilities within the limits of work, including onsite and offsite access routes.
- B. The location of existing utilities and underground facilities known to the Owner are shown in their approximate location based on information available at the time the Drawings were prepared. The actual location, size, type and number of

utilities and underground facilities may differ from that shown, and utilities or underground facilities present may be present that are not shown.

- C. Obtain best available current information on location, identification and marking of existing utilities, piping and conduits and other underground facilities before beginning any excavation. Call Underground Service Alert at 800-642-2444 for information at least 48 hours in advance of beginning work.

3.06 ACCESS TO THE PROJECT SITE

- A. The Contractor shall have access to the project site on Monday through Friday from 8 am to 5 pm excepting weekends and holidays as described in the Supplemental Conditions, or as approved in writing by Owner's Representative.
- B. Access to the site is over public and private roads. Exercise care in the use of such roads and repair any damage to the satisfaction of the Owner or agency having jurisdiction over the road.
- C. Under no circumstances shall the Contractor use any other private roads that are not designated for access.
- D. Comply with all dust control requirements per Section 01 57 19 Environmental Protection.
- E. The Contractor may need to trim adjacent trees and/or place aggregate base or other surfacing material along access routes on private property and in staging areas. The Contractor shall obtain approval from the Owner's Representative prior to tree trimming and/or road surfacing. See Section 31 11 00 Clearing, Grubbing, & Demolition for tree trimming requirements.

3.07 ACCESS WITHIN THE SITE

- A. The Contractor shall construct and maintain temporary access roads within the limits of work. Access routes width is 15 feet, unless approved by Owner's Representative.
- B. Allowable access routes within the Project Site are shown on the Drawings. It is the Contractor's responsibility to determine the adequacy of the suggested route for its use. The Contractor shall obtain written approval from the Owner's Representative prior to using or constructing any temporary access roads along alternative route(s).
- C. The Contractor shall perform any grading and/or fill placement needed for construction and maintenance of access routes. This includes installation and maintenance of temporary creek crossing at the location shown on Drawings.
- D. Upon project completion, the Contractor shall completely remove fill and restore temporary access routes to their original condition. As an exception, certain

access routes may remain for future revegetation and/or maintenance access as shown on the Drawings and/or as directed by the Owner's Representative.

- E. The Contractor shall coordinate site access with the Revegetation Contractor and Owner's Representative, including access for stockpiling materials.

*** END OF SECTION ***

SECTION 31 23 00

EXCAVATION AND FILL

PART 1 – GENERAL

1.01 SUMMARY

- A. This section applies to all excavation, fill placement, and finish grading within the grading limits as shown on the Drawings. Earthwork includes, but is not limited to:
 - 1. Excavation for the construction secondary channel(s) and floodplains and construction access.
 - 2. Incidental excavation, grading and backfill associated with installation of rock, biotechnical, and log structures.
 - 3. Topsoil salvage and placement.
 - 4. On site disposal of excess material.

1.02 RELATED WORK:

- A. Section 01 71 10 Field Engineering
- B. Section 31 11 00 Clearing, Grubbing and Demolition
- C. Section 31 25 00 Erosion Control

1.03 QUALITY ASSURANCE

- A. Reference standards: Reference to “Standard Specifications” shall mean the Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, latest edition.

1.04 SUBMITTALS

- A. Refer to Section 01 26 36 Submittal Procedures
- B. Operations Plan. The Contractor shall submit a detailed Operations Plan describing the Contractor’s proposed use of the site, including a Water Control Plan for diversion and dewatering plan. The Contractor shall submit the Operations Plan to the Owner’s Representative for review and comment. The Contractor shall have an Owner-approved plan prior to mobilizing to the site. At a minimum, the plan shall include:

1. A list of major equipment to be used.
2. A diagram of the site showing the Contactor's designated staging area, including its fueling and washdown area.
3. The site diagram shall also include all haul routes (onsite and offsite) to be used throughout construction.
4. A diagram showing the sequence of work.
5. A time schedule of the operations, including specific dates for work.
6. A plan for control, management, and treatment of surface water and groundwater that may enter excavation areas.

The Contractor shall not deviate from the approved Operations Plan unless a revised plan has been approved in writing by the Owner. Failure to adhere to an approved plan shall be cause for rejection of Contractor's request for payment for Excavation bid items, until the plan has been brought into conformance.

- C. Post-Construction Survey: As described in Section 01 71 00 Field Engineering.

PART 2 – PRODUCTS

2.01 SOIL TYPES

- A. Native Material (general requirements): Any excavated soil material reused onsite shall meet these minimum requirements. Native material shall be free of deleterious materials with no rock or hard fragments greater than 4-inches in maximum dimension, and less than 15% larger than 1-inch in diameter. The upper six (6) inches of excavated material may not be used in order to reduce weed seed bank. Segregate and stockpile separately for review and approval by the Owner's Representative for reuse as native material.
- B. Topsoil: Native Material excavated from 6 to 30 inches below ground surface.
- C. Native Alluvium: Any excavated alluvial material comprised by a majority of gravels and cobbles. Native gravel shall be alluvium measuring between one quarter (1/4) inch and four (4) inches in diameter generated through Contractor's excavation of channel banks or bed. Contractor shall segregate and stockpile native alluvium material for reuse in project.

PART 3 – EXECUTION

3.01 SEQUENCE OF WORK

- A. Prior to commencing earthwork, the Contractor shall stake the grading limits of all earthwork items for review and approval by the Owner's Representative or Restoration Engineer. Adjust stakes as instructed by the Owner's Representative to meet the design intent and to provide protection of existing trees to remain.
- B. Excavation and fill placement shall progress in an orderly manner, with completion of contiguous areas as work progresses. Limit the area of active grading as needed for dust and erosion control.
- C. Comply with all restrictions on timing and duration of earthwork activities as required by project permits (Appendix A).
- D. See also schedule and sequence requirements listed in Section 01 11 00 Summary of Work.

3.02 EXCAVATION

- A. Excavate all materials to lines, grades, and slopes as shown on the Drawings to accommodate the finished contours or grades.
- B. The Owner has no knowledge of the existence of artificial obstructions of a size or character that would necessitate the use of special equipment for their removal. See Section 02130 Clearing, Grubbing and Demolition for removal of incidental debris.
- C. Blasting will not be permitted.
- D. Excavation Support: Excavation shall be adequately shored, braced, sloped or otherwise supported in accordance with applicable laws, and as the Contractor deems necessary for safe and controlled performance of the earthwork activities. Shoring shall conform to the requirements of the Construction Safety orders issued by the State of California, Department of Industrial Relations, Division of Industrial Safety. The Contractor shall obtain all necessary excavation permits from the Division of Industrial Safety. The Contractor shall retain the responsibility for determination, design and installation of the sloping, shoring, bracing and other measures required for safe excavations, whether these excavations are greater or less than five feet in depth. The Contractor shall be solely responsible for damages which may result from failure to provide adequate shoring and bracing.
- E. All excavated steep-walled holes or trenches should be covered at the end of each workday with plywood or similar materials. If this is not possible, one or more escape ramps constructed of earth fill or wooden planks will be established in the

hole. Before such holes or trenches are filled, they will be thoroughly inspected for animals.

3.03 CONTROL OF WATER

- A. The Contractor shall submit a Water Control Plan that complies with project permits and takes the following into account. The Water Control Plan shall be approved at least 21 days prior to any ground disturbance activities occur at the Site.
- B. Refer to CCER Floodplain Restoration: Water Control Plan (ESA, 2017) in Appendix A for guidance, however Contractor shall take sole responsibility for sizing system and utilizing components to suitable actual field conditions.
- C. Grading (and rock structure installation) requires work adjacent to the active channel. In addition establishing access to the site across the channel will require work in the active channel. The Contractor shall install and maintain temporary flow diversion system that:
 - 1. Allows creek flows to bypass the construction area
 - 2. Protects adjacent waters from turbidity and other water quality disturbances caused by construction.
 - 3. Allows for removal of groundwater and other water entering the construction area, as the Contractor deems necessary for construction.
 - 4. Meets all other permit requirements, including being sufficiently protective of fish and other aquatic wildlife.
- D. The Contractor shall be aware that surface water and/or groundwater may enter the areas of excavation.
- E. Prior to beginning excavation, the Contractor shall have in-place an Owner-approved work plan for its temporary water diversion/control system.
- F. Two options for Creek crossing:
 - 1. Option 1: Lay crane mats across the Chorro Creek channel, maintaining clearance above the water level. The crane mats must provide a travel way at least 15 feet wide and be covered with a nonwoven filter fabric to reduce the risk of sediment falling off vehicles and into the channel. In addition, a silt fence or similar barrier would be erected at the edge of the crane mats to prevent falling soil or debris from entering the channel.
 - 2. Option 2: Install several culverts on the channel bed and construct a temporary road, made of imported gravel, on top of the culverts. The ground below culverts and gravel must be protected with a nonwoven

geotextile fabric to facilitate removal of all imported material at the end of the project. Minimum road width is 15 feet. A silt fence or similar barrier must be erected at the edge of the gravel to prevent falling soil or debris from entering the channel. Installation of culverts necessitates temporary flow control and dewatering

- G. Fish and other Aquatic Resources Relocation: Prior to any flow diversion and/or dewatering of the construction area in the active channel, all native aquatic vertebrates and larger invertebrates in the construction areas will be moved by Owner's Biological Monitor. The Contractor shall provide Owner's Representative with a minimum of 14 days advance notice of dewatering activities. These activities must occur outside of the window of July 22 to August 6, 2019.
- H. It is anticipated that the channel from Stations 54+70 to 55+30 will be dewatered while access road improvements are installed. During initial dewatering, incremental flow reductions are required. Flow will be incrementally diverted at the upstream boundary of the work area. Diversion will increase progressively over a 4-hour period, by the following increments: 50%, 75%, 90%, 95%, and 100%.
- I. Cofferdams shall be constructed of clean river gravel or sand bags and may be sealed with sheet plastic. Cofferdams shall be constructed starting at the upstream end to allow fish to move downstream out of the work area. The Owner's Biological Monitor(s) shall be present during construction and removal of cofferdams or other diversion measures.
- J. The Contractor shall provide and operate equipment to control water as needed to keep excavations free of standing water as the Contractor deems necessary for safe and efficient execution of the Work. The Contractor shall provide equipment to remove, contain, treat and dispose of groundwater entering the excavation. The Contractor shall treat and contain removed water as needed to adequately remove suspended sediment prior to disposal. Dispose of water in an environmentally acceptable manner, in accordance with project permits, applicable law, and such that property is not damaged.
- K. As a contingency, the Contractor shall maintain at the site sufficient backup equipment as needed to ensure that creek flows will be diverted at all times. The Contractor shall have a contingency plan for possible malfunction or failure of equipment such as pumps, plugs, piping and power source.
- L. All in-stream activities shall be scheduled to minimize the length of time during which the dewatering and flow diversion will be necessary, so as to minimize impacts to aquatic resources.
- M. If endangered fish, frog or other species are found at any time within the in-channel work area following dewatering activities, the Contractor shall contact

the Owner's Representative immediately and all in-channel work shall be suspended until the Owner's Representative has contacted the appropriate agencies.

- N. Operation of vehicles within the creek channel shall be limited as practical. Any equipment used within the creek channel shall be checked daily prior to use for leaks, and repaired as necessary. If leaks occur during work in the channel, the Contractor shall contain the spill and remove any contaminated materials as specified in the SWPPP.
- O. Upon final acceptance of the finished grading, including channel and bank stabilization elements, and approval by Owner, the Contractor shall completely remove the temporary diversion system and restore creek flows.
- P. Contractor shall be responsible for obtaining all necessary permits for treatment and disposal of groundwater removed from the excavation.

3.04 GRAVEL MATERIAL SALVAGE AND REPLACEMENT

- A. Native gravels and cobbles ("Native Alluvium") generated through Contractor's grading activities shall be segregated, salvaged and stockpiled on site for reuse in the project. Off-site disposal of gravels and cobbles is not permitted.
- B. The Contractor shall place stockpiled Native Alluvium in channel areas as directed by the Owner's Representative.
- C. Excess Native Alluvium may be used onsite as follows:
 - 1. In side channels
 - 2. As backfill for biotechnical and log structures provided it meets gradation requirements.
 - 3. Other locations as approved by the Owner's Representative.

3.05 SEGREGATING MATERIALS

- A. The Contractor may assume that all earthen fill material needed for the project can be obtained onsite and that no imported fill is required.
- B. The Contractor shall segregate excavated material onsite as needed to meet these specifications including 1) grubbed material from zero to six inches below ground surface, 2) Topsoil from six to 30 inches below ground surface, and 3) Native Material.
- C. The Contractor shall segregate debris from earthen and gravel materials for all excavated material. Debris is considered to be all non-earthen material that is

unsuitable for reuse onsite and must be disposed offsite of separately from earthen material.

3.06 TOPSOIL SALVAGE AND PLACEMENT

- A. All excavated areas shall be over-excavated and backfilled with 6-inch depth of Topsoil. As an exception the following excavated areas do not required topsoil:
 - 1. Areas excavated by 1-foot or less
 - 2. Areas with a slope greater than 3:1 (H:V).
- B. A 6-inch deep layer of Topsoil shall be placed on all fill areas.
- C. The Contractor shall be responsible for meeting the minimum requirements and shall account for volumetric changes due to bulking, shrinkage and losses during loading, transportation and placement.

3.07 FILL PLACEMENT AND COMPACTION

- A. Subgrade Grading: The Contractor shall grade and compact subgrade to meet lines and slopes for installation of log, rock, and biotechnical stabilization structures. Compacted subgrade shall tie into adjacent native slopes to provide uniform base of construction of rock, log, and biotechnical stabilization structures as shown on the Drawings.
- B. Unless noted elsewhere on the Drawings compact all fill placement to 85% relative compaction.
- C. During all compacting operations, the Contractor shall maintain optimum moisture content so that the specified relative compaction is obtained in each lift as the lift is compacted. The Contractor shall conduct the necessary moisture conditioning as needed to place fill in accordance with these technical specifications. Maintain moisture content uniform throughout the lift. At the time of compaction, the water content of the materials shall be at optimum moisture content, plus 0 to 3 percentage points.
- D. Fill compaction by ponding and jetting will not be permitted.
- E. The Owner has the option to perform in-place density and moisture content testing on each lift of fill. The Contractor shall cooperate with this testing by leveling small test areas. The frequency and location of testing will be determined solely by the Owner. As the Contractor nears completion of compaction of each lift, notify the Owner so that the Owner is afforded the opportunity to test each lift.

3.08 FINE GRADING

- A. The Contractor shall finish grade channel banks within the grading limits to smooth slopes to the lines and grades shown on the Drawings. Backfill and compact soil around edges of new log and biotechnical structures in order to produce smooth transitions.
- B. Track walk perpendicular all slopes following completion of grading activities.

3.09 TOLERANCES AND ACCEPTANCE

- A. The Contractor shall endeavor to excavate and place fill to the finish grade neat lines indicated in the Drawings. A tolerance of plus or minus 6 inches (+/- 0.5 foot) vertical deviation of final grade from these neat lines will be allowed at all locations unless noted otherwise. Finish grades shall not be continuously over or under design grade elevation; contractor shall strive to complete grading to design elevation. As an exception, a tolerance of plus or minus 3 inches (+/- 0.25 foot) vertical deviation of final grade will be allowed for the active channel grading.
- B. The project may not be accepted as complete if finished grade is outside the limits of these tolerances. In addition, areas of contour grading shall conform to the shapes and slopes indicated in the Drawings so that graded areas gently slope toward the river channel. The Owner may require the Contractor to conduct additional work at his expense to complete excavation and fill to the lines and grades indicated, within these tolerances, and associated surveying to demonstrate conformance with the desired finished grades.
- C. The Contractor shall perform post-construction surveys as described in Section 01 71 10 Field Engineering. Any additional surveying required due to non-conformance shall be performed by the Contractor, at no expense to the Owner.
- D. The Contractor shall furnish the use of equipment and personnel to the Owner if requested by the Owner's Representative, as may be reasonably necessary for the inspection of the work.
- E. Excavation that is continuously over or under the finished grade is not allowed.
- F. The Contractor shall be responsible for repair of slope failures within the project limits.

3.10 ON SITE PLACEMENT OF EXCESS MATERIAL

- A. The Contractor shall transport and place all excess material in the location shown on the Drawings. Maintain fill placement within grading limits shown. Final elevation may be lower than shown depending on availability of material. Do not place material deeper than the maximum shown on the Drawings.

*** END OF SECTION ***

SECTION 31 11 00

CLEARING, GRUBBING, & DEMOLITION

PART 1 – GENERAL

1.01 SUMMARY

- A. The work includes the following:
 - 1. Removal of vegetation, roots, and debris and minor demolition within the limits of earthwork.
 - 2. Removal and salvage of trees slated for demolition with root wads intact that meet specifications for use in wood structures.
 - 3. Select trimming of tree limbs as needed for equipment access.
 - 4. Disposing of removed vegetation onsite as described herein.
 - 5. Disposing of select debris and items removed during demolition off site.
- B. The Contractor shall protect all trees and all other vegetation not slated for demolition. Prior to commencing construction, the contractor shall install temporary fencing, flagging or equivalent at the perimeter of all vegetated areas and/or individual trees to be preserved, temporary facilities, and any other improvements onsite. This includes individual standing dead trees (i.e., “snags”) and the project limit. Prior to commencing work, the contractor shall review all tree and other protection fencing with the Owner’s Representative, and field adjust the limits as directed by the Owner’s Representative. Exclusionary fencing installed at project limit per Section 01 57 19 Environmental Protection can serve as vegetation protection fencing, where appropriate.
- C. The Contractor shall remove debris including timber, rock, concrete, rubble, debris, vegetative matter and other items which may exist within the limits of work. Contractor shall verify potential for reuse of these materials with Owner’s Representative prior to off haul and disposal activities.
- D. Unless shown to be removed or altered, existing improvements and facilities, utilities, adjacent property, trees and plants are not to be removed and shall be protected from injury or damage.

1.02 RELATED WORK

- A. Section 01 57 19 Environmental Protection

- B. Section 02 10 00 Mobilization
- C. Section 31 23 00 Excavation and Fill
- D. Section 31 33 00 Rock Stabilization Structures
- E. Section 31 25 00 Erosion Control

1.03 SUBMITTALS

- A. Contractor shall prepare a schedule of trees to be salvaged for log structures. Prior to tree removal, submit schedule for the Owner's Representatives' review and approval.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION

3.01 SEQUENCE

- A. Coordination through Owner's Representative for other demolition and utility relocation work occurring concurrently.
 - 1. Revegetation Contractor who will be removing and disposing of existing fence.
 - 2. PG&E will remove a junction pole and power lines, coordinated by the Owner, that are connected to the western well that will be decommissioned the Contractor. The western well is inside the grading footprint (approximate location: 35.35105, -120.77969).
 - 3. Well Contractor will recondition existing eastern well for irrigation use. Eastern well is outside of the project grading footprint (approximate location: 35.34946, -120.77636).
- B. Prior to start of clearing operations, the Contractor shall have installed tree protection fencing (per this section), exclusionary fencing (per Section 01 57 19 Environmental Protection) and silt fencing (per Section 31 25 00 Erosion Control).
- C. Complete coordination with Owner's Representative to confirm trees to be salvaged.
- D. Well decommissioning shall be sequenced with grading operations such that well piping is cut flush or below finished ground elevation.

- E. Clearing and grubbing operations shall proceed in an organized manner in advance of earthwork and structure installation. Clearing and grubbing shall be sequenced by area such that earthwork begins within two (2) calendar weeks of an area being cleared and grubbed. Clearing and grubbing operations shall also be sequenced to minimize dust generation and erosion at the site.

3.02 CLEARING AND GRUBBING

- A. Limit clearing to three (3) feet beyond limits of grading (excavation and fill placement).
- B. Areas shall be cleared and grubbed by removing obstructions, trees, shrubs, grass, and other vegetation. Removal includes digging out stumps and obstructions and grubbing roots. Completely remove stumps, roots, obstructions, and debris extending to a depth of 6-inches below subgrade. Use only hand methods for grubbing within drip line of remaining trees.
- C. The Contractor shall take care to avoid damaging any trees or native herbaceous plants designated to remain.

3.03 TREE PRUNING

- A. Contractor shall obtain approval from the Owner's Representative prior to pruning any tree to remain. Only prune trees as required for performance of the work.
- B. If pruning is needed, prune trees to balance the crown, and eliminate hazards. Perform main work to reduce sail effect through thinning, reducing end weights, shortening long heavy limbs, removing deadwood, weak limbs and sucker growth. Prune limbs back to an appropriate lateral branch. Perform pruning work in a safe and proper manner, adhering to CAL-OSHA and ANSI Standards.

3.04 ROOT PRUNING

- A. Do not cut tree roots greater than 3-inch in diameter and less than 12-inches below ground level without approval of the Owner's Representative.
- B. Cut tree roots cleanly, as far from the trunk as possible. Root pruning shall be to a depth of 18-inches.
- C. Prune tree roots using a Vermeer root-cutting machine. Obtain the Owner's Representative's approval before using alternate equipment or techniques.
- D. Complete tree root pruning prior to any excavation adjacent to the tree.
- E. Do not expose tree roots to drying out. Cover root ends with soil or burlap and keep moist until the final backfill is completed.

3.05 TREE REMOVAL

- A. The Contractor shall only remove: (a) trees less than 12-inches in diameter within the grading limits, and (b) trees greater than 6-inches in diameter slated for removal as shown on the Drawings and marked in the field by the Owner's Representative. Trees to be removed from the project site shall be marked with blaze-orange marking paint. All other trees within or adjacent to the project limits shall be retained and surrounded by protection fencing.
- B. Unless specifically agreed to otherwise, the Contractor shall assume that any removed tree 12-inches in diameter (as measured at breast height) or greater shall be salvaged for relocation and/or for log structures, assuming it meets the requirements as specified in Section 31 35 00 Log Structures. Smaller trees within 2" of this diameter threshold shall be reviewed with Owner's Representative prior to removal.
- C. Trees to be salvaged for relocation or log structures shall be removed in a manner that leaves the rootwad intact. The Contractor may trim roots from rootwad that are (a) less than two (2) inches diameter and/or (b) more than four (4) feet from the center of the tree trunk, as needed to facilitate removal. Root wad preservation and limbing of salvaged trees to be performed by a qualified contractor under supervision by a certified arborist.
- D. Perform tree removal work in a safe and proper manner, adhering to CAL-OSHA and ANSI Standards.

3.06 MINOR DEMOLITION AND DEBRIS REMOVAL

- A. Remove miscellaneous debris within project limits including, but not limited to, asphalt and concrete rubble, drainage improvements, irrigation lines, valves, fittings, and other debris, whether or not shown on the Drawings.
- B. Remove concrete and miscellaneous debris stockpiled onsite at the location shown on the Drawings. The Contractor is responsible for visually inspecting the stockpile and estimating the quantity of debris.
- C. Remove incidental debris encountered during clearing and grubbing activities and segregate and dispose of debris offsite. Vegetative matter is not debris. Any debris removal that meets any one of the following criteria shall be negotiated as extra work, subject to authorization by the Owner's Representative:
 - 1. Debris that requires special equipment for removal
 - 2. Hazardous debris that requires special offsite disposal per the Owner's direction.

3.07 WELL DECOMMISSIONING

- A. Contractor shall obtain all necessary permits and inspections from the County or other regulators to conduct work.
- B. Decommission well per applicable standards, which may include removing pumps, piping, and electrical utilities, filling well with concrete and capping the well.

3.08 DISPOSAL

- A. Trees labeled for reuse in wood structures shall be salvaged.
- B. Any excess trees, as well as removed native vegetation debris shall be chipped, stockpiled onsite and spread on graded areas following Substantial Completion as directed by Owner's Representative.
- C. Non-woody vegetation may be placed in fill placement area and covered with at least 3 feet of fill material.
- D. Rocks and boulders may be reused in the project if they meet the project specifications and as directed by the Owner's Representative.
- E. Any removed debris, except items to be salvaged, shall become the Contractor's property and shall be properly dispose of offsite in a lawful manner.
- F. Concrete and other debris shall be recycled in an offsite location to the extent possible. Contractor must obtain Owner's written approval for disposal location.

*** END OF SECTION ***

SECTION 31 25 00

EROSION AND SEDIMENTATION CONTROL

PART 1 – GENERAL

1.01 SUMMARY

- A. This section describes the following work:
 - 1. Implementation of sediment and erosion control measures (1) during construction, and (2) upon completion of construction.
 - 2. Maintenance and repair of erosion and sediment control measures during the maintenance period.

1.02 RELATED WORK

- A. Section 01 57 19 Environmental Protection
- B. Section 31 23 00 Excavation and Fill

1.03 DEFINITIONS

- A. Substantial Completion: As defined in Section 01 71 70 Closeout Procedures.
- B. Construction Period: Between the dates of Notice to Proceed and Substantial Completion.
- C. Seed Application: Shall occur after September 20 and no later than October 11, unless directed otherwise by the Restoration Engineer.
- D. Maintenance Period: Between the date of Substantial Completion and April 15, 2020.

1.04 SUBMITTALS

- A. The following shall be submitted to the Restoration Engineer for all fabric materials:
 - 1. Product Data: Manufacturer's printed product data, specifications and samples for each type of material proposed for use by the Contractor.
 - 2. Manufacturer's Printed Instructions: Instructions for storage, handling, installation and overlapping of materials in accordance with this section.

3. Compliance with Manufacturer's Installation Specifications: Manufacturer installation details for hold-downs, anchoring, stapling, repairs and other details as required for the installation per manufacturer's standards and as shown on the Drawings.
 4. Manufacturer's Certification: That the installer and installation procedures are manufacturer-approved and proposed materials comply with the requirements specified in this section and that the proposed materials are suitable for the intended uses.
 5. Manufacturer's Certificate of Warranty: For each of the materials, including installation.
- B. The following shall be submitted to the Restoration Engineer for all seeding materials:
1. Seed mix verification by way of certified mix labels from supplier in sealed seed mix bags. In addition, the Contractor shall submit a 1-pound bag of the seed mix for approval before any seeding operations.
 2. Equipment: Within 21 days of the Award of Contract, the Contractor shall submit catalog data sheets on all equipment to be used under this Contract.

1.05 DELIVERY, HANDLING AND STORAGE

- A. All commercially processed or packaged materials shall be delivered to the site in sealed bags or containers clearly marked to identify the item or materials.
- B. Fabric Materials:
1. Each roll of fabric material shall be wrapped with a material covering that will protect the fabric from damage due to shipment, direct sunlight, moisture, and storage.
 2. Supply fabric material in rolls, tagged with manufacturer or supplier name, product identification and indicating roll number and roll dimensions.
 3. Handling of the materials on site shall utilize manufacturer-approved methods, such as forklifts, cables and slings. Materials shall be kept clean and free from damage prior to installation. Fabric materials shall be protected from direct sunlight, ultra-violet rays, temperatures greater than 140 degrees F, mud, dirt, dust and debris during shipment and storage. To the extent possible, the fabric shall be maintained wrapped in a heavy duty protective coating.
 4. At the time of installation, fabric shall be rejected if it has defects, rips, holes, flaws, deterioration or damage incurred during manufacture, transportation or storage.

C. Seed Materials:

1. Seed materials, including the seed mix, fertilizer, and mulch, shall be delivered by the Contractor to the job site with durable, waterproof labels indicating the correct species, variety, percent live seed (PLS) and other certifications, and the supplier's name, in conformance to these Specifications.
2. The Contractor shall be responsible for storing and maintaining the seed mix, fertilizer, and mulch as delivered throughout the Construction Period.

PART 2 – PRODUCTS

2.01 BEST MANAGEMENT PRACTICES (BMPS)

- A. The following is the minimum list of products for typical BMPs that the Contractor shall employ throughout the site for erosion and sediment control. The Contractor shall supplement this list as needed.
1. Stabilized construction entrance.
 2. Silt Fence: Woven filter fabric, UV resistant silt fence. Wooden or steel posts three (3) feet high minimum (does not include embedment).
 3. Fiber Roll: Fiber roll logs shall be made from 100% mattress grade coconut fiber and bound by high-strength coir fiber netting that is 100% Biodegradable 9-inch minimum diameter coir/straw wattle with minimum 30% coir. At no time shall "Photodegradable" or "UV stabilized" material be used. The minimum tensile strength of the fabric shall be 55 lbs per yarn dry or 40 lbs when wet. The Contractor shall use 20-foot roll lengths, except where continuous shorter distances are encountered. North American Green SediMax, or approved equivalent.
 4. Erosion Control Fabric: Woven erosion control fabric constructed of 100% biodegradable materials with a 100% coconut fiber matrix and a functional longevity of approximately 48 months. The material shall be evenly wheel spun and uniformly twisted from well-cleaned 100% biodegradable natural organic coir woven into an approximate 2-inch x 2-inch mesh. Manufacturer: Belton Industries – Geocoir Dekowe 400, or equivalent.
 5. Staples: Staples shall be Eco-STAKE, 100 % biodegradable "1"- shaped hardwood pin, 6-inches long, as manufactured by North American Green (1-800/772-2040), or approved equal. Greater lengths can be substituted if desired.

6. Twine: Twine shall be machine-spun bristle coir, biodegradable, a minimum thickness of ¼-inch in diameter, and with a minimum breaking strength of 100-pounds. It shall be capable of lasting a minimum of 3 years in-place when in contact with soil and water periodically throughout the year. Twine shall not stretch when wet.
7. Floating silt curtains (for isolating work from creek flow): Fabric shall be UV resistant, woven monofilament material, suitable for sediment trapping under moderate currents and tidal conditions. Curtains shall be bottom-weighted, minimum 5 feet high, and have overlapping seams. Layfield FSC, or approved equivalent.

2.02 SEEDING

- A. Native Grass Seed Names: All native grass seed names shall be true to botanical and common name and variety as indicated in:
 1. Hickman, J.C. (ed.). 1993. *The Jepson Manual: Higher Plants of California*. University of California Press. Berkeley, CA.
 2. U.S. Natural Resources Conservation Service. 2009. Plants Database. Available: <<http://plants.usda.gov>>. Last updated June 15, 2009.
- B. Seed Mix: The seed mix shall be provided by the Contractor and shall be the same species, varieties, and percentages for the mix as shown on the Drawings. Seed shall be pre-mixed by the supplier before shipment to the project site. Seeds shall be pre-coated by the nursery with the inoculum appropriate to the species or mix. The seed mix shall not contain noxious weed seed.
- C. Fertilizer: shall be ammonium phosphate sulfate fertilizer (16-20-0).
- D. Straw Mulch: Straw mulch shall be mold-free, air-dry uncut straw, certified weed free.
- E. Tackifier (Stabilizing Emulsion): Tackifier (stabilizing emulsion) shall be in a dry powder form, may be reemulsifiable, and shall be a processed organic adhesive used as a soil tackifier.

PART 3 – EXECUTION

3.01 GENERAL REQUIREMENTS

- A. At a minimum, the Contractor shall install and maintain temporary erosion and sediment control measures in accordance with the SWPPP, manufacturer's recommendations, as shown on the Drawings and as required by these Technical

Specifications. In case of a conflict, the more rigorous installation requirements shall apply.

- B. Implement additional measures as needed to control erosion from exposed soil surfaces and to minimize sediment runoff from the project site. These measures shall be implemented and maintained throughout the construction and maintenance periods.
- C. During the construction period, the Contractor shall maintain onsite sufficient quantities of erosion and sediment control materials to be installed in the event that rain is forecast, and for rapid response to failures or emergencies. The Contractor shall consult the local weather forecast daily.
- D. If rain is forecast during construction, Contractor shall, at a minimum, secure all soil stockpiles by covering and/or installing a perimeter silt barrier.
- E. All temporary erosion control measures deemed necessary during the rainy period shall be installed by October 11th.

3.02 SILT FENCES

- A. Silt Fences shall be used and installed as necessary during the project construction period as a temporary measure for sediment and erosion control.
- B. At a minimum, install silt fences to enclose soil stockpiles if rain is forecast.
- C. Install silt fence in accordance with manufacturer's recommendations and as described in the SWPPP.
- D. Silt fence placement and removal shall be coordinated and approved by the Restoration Engineer.

3.03 FLOATING SILT CURTAIN

- A. Floating silt curtain shall be installed so it will not be disturbed by construction activities.
- B. The silt curtain shall be placed parallel to or at an angle to the direction of flow.
- C. The silt curtain shall extend the full depth of the water body. The curtain depth shall be 10% longer than the water depth (at the anticipated high water level) to ensure the curtain rests on the bottom.
- D. Both the top and the bottom of the silt curtain shall continue up onto the shore beyond the anticipated high water level. The bottom of the silt curtain shall be tapered to the shape of the shore.

3.04 EROSION CONTROL FABRIC

- A. At a minimum, erosion control fabric shall be installed as shown on the Drawings, and in supplemental locations as deemed necessary for erosion and sediment control.
- B. Prior to installation of fabric, area shall be seeded in accordance with this section and the Drawings.
- C. Install erosion control fabric in accordance with manufacture's specifications, including stapling, staking and securing ends with toe trench or equivalent.
- D. The Contractor shall maintain the areas covered with erosion control fabric until final Acceptance of the Work. Prior to final acceptance, any damaged areas shall be reshaped as necessary with the erosion control fabric satisfactorily repaired or replaced

3.05 SEEDING

- A. All areas shall be seeded with the same species, varieties, and percentages for the seed mix as shown on the Drawings.
- B. All areas, less than 3:1 slope shall be drill seeded. Slopes 3:1, or steeper shall be hydroseeded. The areas to be seeded shall not include the creek. Slopes shall be prepared by disking or harrowing to break up large clods and to smooth the surface. The seed bed shall be prepared at the time of completion of grading, soil moisture conditions permitting.
- C. Areas that are not feasible for drill seeder or hydroseeder will be broadcast seeded. The seed shall be broadcast onto the areas to be seeded, then raked in so that it is covered by approximately 1/8 inch of soil. Seed shall be broadcast by hand or by mechanical spreader onto the prepared soil surface. Following seeding, the seed shall be worked into the soil surface by hand raking or by chain dragging.
- D. Straw mulch shall then be broadcast over the seeded areas or disturbed slopes greater than 10:1 at the rate of 3,000 pounds per acre, minimum, for an even distribution of mulch. Straw mulch shall be spread by hand or blown, as appropriate. The straw shall be tractor walked or tugged in with a mulching roller or straw crimper that punches the mulch in the ground to a depth of approximately two (2) inches. On areas inaccessible to equipment, mulch shall be anchored using hand tools such as spade, shovel, or other suitable equipment.
- E. Seeding and mulching operations shall not be permitted when wind velocities exceed 15 miles per hour or when the soil is saturated.
- F. Areas to be seeded near and within driplines of existing vegetation to remain shall be seeded by hand-broadcast methods and these areas shall be hand-raked to

cover the seeds. The Contractor shall use care to avoid damaging the root zone, the trunk, or any vegetation to remain. During seeding operations, care shall be taken to avoid damaging existing facilities, vegetation to remain, or any other items on or around the erosion control areas.

3.06 MAINTENANCE

- A. The Contractor shall regularly inspect, maintain and repair temporary erosion control measures throughout construction and the maintenance period. Inspect all temporary erosion control measures when rain is forecast, and immediately following rainfall events. Inspect disturbed banks of the side channels and floodplain after storm events and monthly at a minimum.
- B. Following each event, remove accumulated sediment, repair any damage and install any additional measures as needed.
- C. The Contractor shall reseed sparse cover or bare areas with a modified seed mix according to the Restoration Engineer's direction, as needed.
- D. Follow all monitoring and reporting requirements per the SWPPP.

3.07 CLEANUP

- A. Upon completion of the maintenance period, remove all materials and dispose of properly at approved offsite facility. Regrade and restore natural drainage patterns as needed at locations of disturbance and smooth grades and replace erosion control BMPs.

*** END OF SECTION ***

SECTION 31 35 10
BIOTECHNICAL SLOPE PROTECTION

PART 1 – GENERAL

1.01 SUMMARY

- A. This section applies to installation of biotechnical structures including:
 - 1. Brush Mat
 - 2. Willow Baffles
 - 3. Live Pole Planting
 - 4. Branch Bundles

1.02 RELATED WORK

- 1. Section 31 23 00 Excavation and Fill
- 2. Section 31 33 00 Rock Stabilization Structures
- 3. Section 31 35 30 Log Structures

1.03 QUALITY ASSURANCE

- A. Installer Qualifications: The Contractor shall only use subcontractors and/or individuals with demonstrated experience installing in-stream biotechnical structures and harvesting live vegetation.
- B. Reference standards: Reference to “Standard Specifications” shall mean the Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, latest edition.

1.04 SUBMITTALS

- A. See Section 00 26 36 Submittal Procedures.
- B. Contractor to provide submittals on all materials imported to site.

1.05 COORDINATION

- A. If a Sub-contractor (“Sub”) is contracted to install Biotechnical Structures, Sub shall anticipate consistent communication with the Contractor and/or the Owner’s Representative as needed to successfully complete the project.

- B. Contractor shall anticipate cooperating with Revegetation Contractor for their contribution of hand labor and plant materials to install these features as described in the Drawings, in this section and other related work sections of these Technical Specifications.

PART 2 – PRODUCTS

2.01 GENERAL

- A. Materials supplied by Revegetation Contractor:
1. Live Stems: Stems shall be fairly straight. Stems shall meet the minimum requirements in table, and any additional requirements listed by structure below:

Structure	Basal Diameter of cutting (inches)	Length (feet)	Branches	Species Mix
Brush Mat – Willow Stem	½ - 1½	10	Unbranched at least half of stem length	Red and Arroyo Willow
Willow Baffle – Willow Stem	½ - 1½	8	Unbranched at least half of stem length	Red and Arroyo Willow
Branch Bundles	2 - 4	8	Branches acceptable; strip leaves	Willow 65%, Cottonwood 25% and Alder 10%
Live Pole	1 - 2	5	No branches; strip leaves	Willow 65%, Cottonwood 25% and Alder 10%

2.02 BRUSH MAT & BRANCH BUNDLE

- A. Materials supplied by Contractor:
1. Gravel: per Section 31 33 00 Rock Stabilization Structures.
 2. Rock Ballast: 50-lb stone per Section 31 33 00 Rock Stabilization Structures
- B. Materials supplied by Revegetation Contractor:
1. Coir Fabric: Woven erosion control fabric constructed of 100% biodegradable materials with a 100% coconut fiber matrix and a functional longevity of approximately 48 months. The material shall be evenly

wheel spun and uniformly twisted from well-cleaned 100% biodegradable natural organic coir woven into an approximate 2-inch x 2-inch mesh. Manufacturer: Belton Industries – Geocoir Dekowe 400, or equivalent.

2. Live Willow Stems: per 2.01.A above. Stem lengths shall be sufficient to span the extent of the mat, be embedded 12 inches into the toe trench.
3. Branch Bundles: minimum 50% of material per bundle must be live stems from willow, dogwood, or alder. Remaining 50% of material may be any pruned tree material that meets specification in table in Section 2.01.A above.
4. Rope: Biodegradable fiber, 1/4" diameter.
5. Wooden Stakes: Wooden stakes, 24" x 2" x 1", tapered to a point, and capable of fully securing fabric to underlying soils.

2.03 WILLOW BAFFLES

- A. Materials supplied by Contractor:
 1. 50-lb stone: per Section 31 33 00 Rock Stabilization Structures.
- B. Materials supplied by Revegetation Contractor:
 1. Live Willow Stems: per 2.01.A above.

PART 3 – EXECUTION

3.01 CONSTRUCTION STAKING

- A. The Contractor shall stake the limits of each biotechnical structure as shown on the drawings. Structure staking shall be performed after grading has been completed. The Contractor shall allow up to three (3) days for review and approval of staking by the Owner's Representative or Restoration Engineer.
- B. The Contractor shall adjust stakes as requested by the Owner's Representative or Restoration Engineer to meet design dimensions and intent.
- C. The Contractor will be responsible for establishing offset stakes and maintaining a system of control so that the Owner's Representative or Restoration Engineer can verify that design intent is being met.

3.02 LIVE STEMS HARVESTING

- A. The Revegetation Contractor shall obtain all live plant material needed for the construction of biotechnical structures. Live stems harvesting includes, but is not limited to:

1. Identifying local, watershed specific harvest locations.
 2. Securing permission from landowner and meeting its requirements.
 3. Meeting all regulatory requirements.
 4. Identifying and obtaining all permits.
 5. Insuring health and rigor of live material.
 6. Insuring material is free of pests and disease.
 7. Trimming, cutting, soaking and otherwise preserving material.
 8. Transporting, loading and unloading, and storage of material at the site.
- B. Plant Species: Species shall be Red Willow (*Salix laevigata*) and Arroyo Willow (*Salix lasiolepis*), *Populus fremontii* (Fremont cottonwood) and *Alnus rubra* (Red alder). Harvested stems and poles are hereafter referred to as 'Material'.
- C. Harvest Locations: Revegetation Contractor shall identify harvest source(s) and submit the location to the Owner's Representative for approval prior to harvest. Only locally native plant species are permissible; plant material sourced from outside of the project watershed shall be approved by Owner's Representative prior to use. The Revegetation Contractor shall secure permission from the landowner of the harvest source, and meet all regulatory, permitting and landowner's requirements.
- D. Access: Revegetation Contractor is responsible for meeting the access requirements of landowner. The Revegetation Contractor shall employ measures that minimize trampling of vegetation, and do not cause soil erosion or over-compaction.
- E. Observation: The Owner's Representative shall be afforded the opportunity to observe material harvesting. Provide a minimum of 48 hours notice prior to initiating material harvesting activities.
- F. Harvest Methods: Material shall be harvested above ground in a manner that does not damage the host plant. No more than 50% of the host plant shall be harvested and removal shall be balanced across entire host plant. Material shall be cut cleanly near the base of the stem leaving no more than 1/4" of stump. Leaves and small branches shall be left on the material to the maximum extent possible. Harvested material shall be trimmed at the project site as needed to meet specified dimensions.
- G. Debris: The Revegetation Contractor is responsible for appropriate processing and disposal of all plant debris. The harvest locations shall be left clean and free of all harvest debris.

- H. Material Protection: Cut material shall be kept moist continuously from time of harvest to installation on site. Material shall be continuously protected from exposure to sun and wind. Live woody material shall not be refrigerated.
- I. Transportation: Material shall be wrapped in or layered between moist fabric for transportation. Material layers between fabric shall be no more than three (3) feet thick.
- J. Storage: Coordinate all material harvesting with installation activities so that material is installed at the project site within 48 hours of being harvested. All unused material shall be stored by soaking.
- K. Soaking: All harvested material shall be soaked onsite with the cut (basal) end of the material submerged at least 1/3 of stem length. Soaking material shall be shaded from sun exposure at all times. Live woody material staking/ storage site shall be located and constructed by Revegetation Contractor, as approved by the Owner's Representative.

3.03 BRUSH MAT INSTALLATION

- A. Bank Preparation: Cut and shape bank slopes as needed to produce a smooth slope to the lines and grades shown on the Drawings. Subgrade shall be approximately 3 inches below surrounding finished grade.
- B. Toe Trench: Excavate toe trench to the required dimension.
- C. Live Stem Placement: Lay live stems on the prepared bank slope parallel to each other, with the cut ends at the toe of the bank. Stems shall be placed closely together at a minimum of five (5) stems per linear foot. Stem spacing shall be the minimum needed to lay the stems firmly against the bank while leaving as many branches and leaves as possible. Stems may be removed as needed to obtain firm contact between the full stem length and underlying bank soils. Place stems so that the basal ends abut against the rock in the toe trench below channel bed grade.
- D. Live Stem Protection: Take care not to damage stem bark and branches throughout brush mat installation.
- E. Gravel layer: Cover secured stems with 3-inch gravel layer. Distribute gravel layer over live stem material so that approximately 60% of the total live stem material is exposed. Work gravel between and on top of stems taking care to maintain stem and soil contact. Gravel may be lightly watered to facilitate stem to fines contact
- F. Coir Fabric: Cover brush mat with coir fabric. Anchor fabric above the top of bank and on the bank with wooden stakes. Extend fabric over stems into toe trench, stake, and cover fabric with rock-soil mix.

- G. Secure Stems: Drive notched stakes through coir fabric and willow stems into bank in a grid pattern as shown on Drawings. Leave adequate length of stake exposed in order to secure tie rope at each stake. Connect rope to stakes by tying or wrapping. Once the rope 'net' is in place and secure over brush mat, drive stakes further into bank in order to cinch and tighten net down over brush mat.
- H. Anchor Stems and Coir Fabric: Carefully place 50lb stone and Native Alluvium to backfill toe trench and completely anchor the cut end of stems and coir fabric.
- I. Transition Ends: Provide smooth transitions and tailor edges of brush mat to existing contours and vegetation. Anchor coir fabric in transition trench with live and wooden stakes and backfill with gravel and Native Material.

3.04 WILLOW BAFFLE INSTALLATION

- A. Trench: Excavate trench to the required dimension. Mound half of the excavated soil on the downstream side of the trench for the live stems to lean against.
- B. Stem Placement: The Revegetation Contractor shall remove all leaves from approximately 50% of the live stems. Lay live stems in the toe trench parallel to each other, with the cut ends in the toe trench. Stems shall be placed closely together at a minimum of ten (10) stems per linear foot, including five (5) of the de-leaved stems. Take care not to damage stem bark and branches throughout installation.
- C. Anchor Stems: Carefully backfill toe trench with 1 foot of Native Material. Place 2 layers of ballast rock on live stems filling voids in each course of rock. Completely backfill trench with Native Material. Compact backfill to 85% relative compaction using methods such as hand tamping, watering, vibratory plate, or similar.

3.05 LIVE POLE PLANTING

- A. Cut the basal (planting) end of the pole into a sharp point.
- B. Drive stake into subgrade with fence post driver, sledge hammer or similar. Stake length above ground shall be 1.5 ft.
- C. Cleanly cut frayed end of stake.

3.06 BRANCH BUNDLE INSTALLATION

- A. Excavate three (3) foot deep hole.
- B. Bind 6 to 8 stems securely with rope.
- C. Insert branch bundle into hole and backfill with spoils from the hole taking care to fill in between the branches with the spoils.

- D. Water may be used to facilitate the downward migration of spoils.

3.07 IRRIGATION AND MAINTENANCE

- A. Immediately upon installing structures, Contractor shall irrigate all live stems. Irrigate twice a week minimum until November 15, 2019.

*** END OF SECTION ***

SECTION 31 33 00

ROCK STABILIZATON STRUCTURES

PART 1 – GENERAL

1.01 SUMMARY

- A. This section applies to rock structures including:
 - 1. Planted Cobble Transition
 - 2. Defining rock materials and installation for other rock shown on the Drawings.

1.02 RELATED WORK

- A. Section 31 23 00 Earthwork
- B. Section 31 35 10 Biotechnical Slope Protection
- C. Section 31 35 30 Log Structures

1.03 QUALITY ASSURANCE

- A. Installer Qualifications: The Contractor shall only use subcontractors and/or individuals with demonstrated experience installing in-stream structures and creek restoration projects.
- B. Reference standards: Reference to “Standard Specifications” shall mean the Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, latest edition.

1.04 SUBMITTALS

- A. Refer to Section 01 26 36 Submittal Procedures.
- B. Rock Materials: For imported rock materials, the Contractor shall designate in writing to the Owner the source, or sources, of rock to be incorporated into the work. Contractor shall not commence shipment of any rock without written acceptance by the Owner of the rock to be used. The Contractor shall also submit certificates of compliance that indicate results of tests made by an independent testing laboratory for each proposed source (or sources) of rock. Certification by the quarry(s) producing the rock can be substituted if the certification includes prior test results certified by the quarry as representative of the rock provided for this project. Certificates are required for:

1. Gradation of each class of rock.
2. Apparent specific gravity, absorption, durability index and abrasion loss.
3. Compliance with Standard Specifications.

An unspecified volume of rock and boulder materials will generated from the site as a result of Contractor grading activities. The Contractor shall identify rock materials to be reused in rock structures for review by the Owner's Representative.

PART 2 – PRODUCTS

2.01 ROCK MATERIALS

- A. All rock used shall be quarry rock, angular, close grained, and hard. Rock shall be free of seams or thin layers of soft or decomposed material to the end that it will not shatter, disintegrate, break down, or open up on dumping or exposure to weather or water action. Contractor shall provide sample of proposed rock materials for approval by Owner's Representative. Rock shall meet the following requirements:
 1. Apparent specific gravity - 2.65 minimum
 2. Absorption - 4.2% maximum by CA 206
 3. Durability index - 52 minimum by CA 229
- B. Any rock material salvaged onsite may be used provided (a) the material meets the requirements of these specifications and (b) is approved by the Owner's Representative. Salvaged rock shall be free of concrete rubble, asphalt or other debris.
- C. Rock materials shall meet the following classes of rock slope protection shown on the Drawings and as specified in Section 72-2.02 of the Standard Specifications:
 1. 1-ton boulders in Habitat and Low Profile Large Wood Structures: 1-ton Class
 2. 200-lb stone in Access Road: Light Class
 3. Rock material in Rock Soil Mix: Light Class
 4. 50-lb rock in Willow Baffle and Brush Mat: Facing Class
 5. Gravel: Class 2 Permeable per Section 68-2.02F(3)
 6. Class 2 Aggregate Base: 1-1/2 inch maximum per Section 26-1.02B.

- D. Cobble shall be river rounded rock and shall meet the following gradation:

Nominal Diameter	Percent Passing
18"	100
12"	25-100
6"	0-10

Nominal diameter is the average of measurements along the three primary axes.

- E. Native Material and Native Alluvium: per Section 31 23 00 Excavation and Fill.

2.02 ADDITIONAL MATERIALS

- A. Planting Tube: 6 inch diameter cardboard tube, with a wall thickness of 0.125" minimum. Manufacturer: Sonotube "Builders Tube" or equivalent.

PART 3 – EXECUTION

3.01 WORK SEQUENCE AND FIELD STAKING

- A. Contractor shall sequence installation of the rock structures with grading and log structure installations to minimize disturbance to existing and new improvements and maintain an efficient flow of work.
- B. Prior to beginning rock structures, the Contractor shall stake vertical and horizontal limits of the structure including grade breaks. At the time of field staking, the Contractor shall report to the Owner's Representative the surveyed elevations of the river thalweg at the upstream limit of the structure. The Contractor shall not proceed with rock structure installation until staking has been reviewed and approved by Owner's Representative or Restoration Engineer. The Contractor shall allow up to three (3) working days for review and approval of field staking by the Owner's Representative or Restoration Engineer. Adjust staking as directed by the Owner's Representative.

3.02 SUBGRADE PREPARATION

- A. The Contractor shall excavate subgrade to the lines and grades shown on the Drawings. Earthwork for rock structures shall conform to Sections 19-1 and 19-3 of the Standard Specifications. Grade tolerance in section 19-1.03 shall be 0.5 feet.
- B. Subgrade preparation for each structure shall be approved by the Owner's Representative prior to placement of subsequent rock materials.
- C. Fill and compaction - see Section 31 23 00 Excavation and Fill.

3.03 GENERAL ROCK PLACEMENT REQUIREMENTS

- A. Rock structures shall be constructed in conformance with Section 72-2 Rock Slope Protection of the Standard Specifications, except Section 72-2.03 "Placing" shall be modified as follows: local surface irregularities shall not vary from the planned slope by more than 0.5 feet.
- B. All rock 1/4-ton or greater shall be Method A Placement, per Section 72-2.03 Placing of the Standard Specifications. All rock smaller than 1/4-ton shall be Method B Placement.
- C. Filling Voids: Upon placement of large rocks (e.g., Light Class or larger), Native Material shall be used to fill the voids of large rock to the lines and grades shown on the Drawings. The Contractor shall endeavor to completely fill all voids and to achieve 85% compaction, using necessary methods, including vibrating and using hand tools. It may be necessary to mix water into fill material to facilitate movement into the voids. Water jetting of the fill material is permitted. Placement of fill in voids shall not interfere with the rock placement requirements, including maintaining 3-point contact. Voids shall be filled so that settlement does not occur when checked by hand tamping by Owner's representative or Restoration Engineer.

3.04 PLANTED COBBLE TRANSITION PLACEMENT REQUIREMENTS

- A. Subgrade: Prepare subgrade as shown on the Drawings
- B. Materials: Per Sections 2.01 and 2.02.
- C. Facilitate and place biodegradable cardboard tubes for container plantings concurrently with placement of cobble as shown on the Drawings. Cardboard planting tubes shall be placed such that one end is touching subgrade. Maintain proper configuration and alignment of planting tubes during installation. Do not damage cardboard planting tubes with water or by consolidation efforts. Contractor must remove and replace damaged planting tubes at their own time and expense. Fill tubes with native soils and take precautions to prevent spilling of soil. Install live stem per detail.
- D. Fill Voids: Upon completion of each layer of stone, fill the voids of the cobble with Alluvial Material as described in paragraph 3.04 C of this section.
- E. Place a layer of Native Material on the banks of the Planted Cobble Transition as shown on the Drawings and compact to 85% relative compaction.
- F. Revegetation Contractor will procure, install, and water live pole cuttings.

*** END OF SECTION ***

SECTION 31 35 10
BIOTECHNICAL SLOPE PROTECTION

PART 1 – GENERAL

1.01 SUMMARY

- A. This section applies to installation of biotechnical structures including:
 - 1. Brush Mat
 - 2. Willow Baffles
 - 3. Live Pole Planting
 - 4. Branch Bundles

1.02 RELATED WORK

- 1. Section 31 23 00 Excavation and Fill
- 2. Section 31 33 00 Rock Stabilization Structures
- 3. Section 31 35 30 Log Structures

1.03 QUALITY ASSURANCE

- A. Installer Qualifications: The Contractor shall only use subcontractors and/or individuals with demonstrated experience installing in-stream biotechnical structures and harvesting live vegetation.
- B. Reference standards: Reference to “Standard Specifications” shall mean the Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, latest edition.

1.04 SUBMITTALS

- A. See Section 00 26 36 Submittal Procedures.
- B. Contractor to provide submittals on all materials imported to site.

1.05 COORDINATION

- A. If a Sub-contractor (“Sub”) is contracted to install Biotechnical Structures, Sub shall anticipate consistent communication with the Contractor and/or the Owner’s Representative as needed to successfully complete the project.

- B. Contractor shall anticipate cooperating with Revegetation Contractor for their contribution of hand labor and plant materials to install these features as described in the Drawings, in this section and other related work sections of these Technical Specifications.

PART 2 – PRODUCTS

2.01 GENERAL

- A. Materials supplied by Revegetation Contractor:
1. Live Stems: Stems shall be fairly straight. Stems shall meet the minimum requirements in table, and any additional requirements listed by structure below:

Structure	Basal Diameter of cutting (inches)	Length (feet)	Branches	Species Mix
Brush Mat – Willow Stem	½ - 1½	10	Unbranched at least half of stem length	Red and Arroyo Willow
Willow Baffle – Willow Stem	½ - 1½	8	Unbranched at least half of stem length	Red and Arroyo Willow
Branch Bundles	2 - 4	8	Branches acceptable; strip leaves	Willow 65%, Cottonwood 25% and Alder 10%
Live Pole	1 - 2	5	No branches; strip leaves	Willow 65%, Cottonwood 25% and Alder 10%

2.02 BRUSH MAT & BRANCH BUNDLE

- A. Materials supplied by Contractor:
1. Gravel: per Section 31 33 00 Rock Stabilization Structures.
 2. Rock Ballast: 50-lb stone per Section 31 33 00 Rock Stabilization Structures
 3. Coir Fabric: Woven erosion control fabric constructed of 100% biodegradable materials with a 100% coconut fiber matrix and a functional longevity of approximately 48 months. The material shall be evenly wheel spun and uniformly twisted from well-cleaned 100% biodegradable

natural organic coir woven into an approximate 2-inch x 2-inch mesh.
Manufacturer: Belton Industries – Geocoir Dekowe 400, or equivalent.

4. Rope: Biodegradable fiber, 1/4" diameter.
5. Wooden Stakes: Wooden stakes, 24" x 2" x 1", tapered to a point, and capable of fully securing fabric to underlying soils.

B. Materials supplied by Revegetation Contractor:

1. Live Willow Stems: per 2.01.A above. Stem lengths shall be sufficient to span the extent of the mat, be embedded 12 inches into the toe trench.
2. Branch Bundles: minimum 50% of material per bundle must be live stems from willow, dogwood, or alder. Remaining 50% of material may be any pruned tree material that meets specification in table in Section 2.01.A above.

2.03 WILLOW BAFFLES

A. Materials supplied by Contractor:

1. 50-lb stone: per Section 31 33 00 Rock Stabilization Structures.

B. Materials supplied by Revegetation Contractor:

1. Live Willow Stems: per 2.01.A above.

PART 3 – EXECUTION

3.01 CONSTRUCTION STAKING

- A. The Contractor shall stake the limits of each biotechnical structure as shown on the drawings. Structure staking shall be performed after grading has been completed. The Contractor shall allow up to three (3) days for review and approval of staking by the Owner's Representative or Restoration Engineer.
- B. The Contractor shall adjust stakes as requested by the Owner's Representative or Restoration Engineer to meet design dimensions and intent.
- C. The Contractor will be responsible for establishing offset stakes and maintaining a system of control so that the Owner's Representative or Restoration Engineer can verify that design intent is being met.

3.02 LIVE STEMS HARVESTING

- A. The Revegetation Contractor shall obtain all live plant material needed for the construction of biotechnical structures. Live stems harvesting includes, but is not limited to:
1. Identifying local, watershed specific harvest locations.
 2. Securing permission from landowner and meeting its requirements.
 3. Meeting all regulatory requirements.
 4. Identifying and obtaining all permits.
 5. Insuring health and vigor of live material.
 6. Insuring material is free of pests and disease.
 7. Trimming, cutting, soaking and otherwise preserving material.
 8. Transporting, loading and unloading, and storage of material at the site.
- B. Plant Species: Species shall be Red Willow (*Salix laevigata*) and Arroyo Willow (*Salix lasiolepis*), *Populus fremontii* (Fremont cottonwood) and *Alnus rubra* (Red alder). Harvested stems and poles are hereafter referred to as 'Material'.
- C. Harvest Locations: Revegetation Contractor shall identify harvest source(s) and submit the location to the Owner's Representative for approval prior to harvest. Only locally native plant species are permissible; plant material sourced from outside of the project watershed shall be approved by Owner's Representative prior to use. The Revegetation Contractor shall secure permission from the landowner of the harvest source, and meet all regulatory, permitting and landowner's requirements.
- D. Access: Revegetation Contractor is responsible for meeting the access requirements of landowner. The Revegetation Contractor shall employ measures that minimize trampling of vegetation, and do not cause soil erosion or over-compaction.
- E. Observation: The Owner's Representative shall be afforded the opportunity to observe material harvesting. Provide a minimum of 48 hours notice prior to initiating material harvesting activities.
- F. Harvest Methods: Material shall be harvested above ground in a manner that does not damage the host plant. No more than 50% of the host plant shall be harvested and removal shall be balanced across entire host plant. Material shall be cut cleanly near the base of the stem leaving no more than 1/4" of stump. Leaves and small branches shall be left on the material to the maximum extent possible.

Harvested material shall be trimmed at the project site as needed to meet specified dimensions.

- G. Debris: The Revegetation Contractor is responsible for appropriate processing and disposal of all plant debris. The harvest locations shall be left clean and free of all harvest debris.
- H. Material Protection: Cut material shall be kept moist continuously from time of harvest to installation on site. Material shall be continuously protected from exposure to sun and wind. Live woody material shall not be refrigerated.
- I. Transportation: Material shall be wrapped in or layered between moist fabric for transportation. Material layers between fabric shall be no more than three (3) feet thick.
- J. Storage: Coordinate all material harvesting with installation activities so that material is installed at the project site within 48 hours of being harvested. All unused material shall be stored by soaking.
- K. Soaking: All harvested material shall be soaked onsite with the cut (basal) end of the material submerged at least 1/3 of stem length. Soaking material shall be shaded from sun exposure at all times. Live woody material staking/ storage site shall be located and constructed by Revegetation Contractor, as approved by the Owner's Representative.

3.03 BRUSH MAT INSTALLATION

- A. Bank Preparation: Cut and shape bank slopes as needed to produce a smooth slope to the lines and grades shown on the Drawings. Subgrade shall be approximately 3 inches below surrounding finished grade.
- B. Toe Trench: Excavate toe trench to the required dimension.
- C. Live Stem Placement: Lay live stems on the prepared bank slope parallel to each other, with the cut ends at the toe of the bank. Stems shall be placed closely together at a minimum of five (5) stems per linear foot. Stem spacing shall be the minimum needed to lay the stems firmly against the bank while leaving as many branches and leaves as possible. Stems may be removed as needed to obtain firm contact between the full stem length and underlying bank soils. Place stems so that the basal ends abut against the rock in the toe trench below channel bed grade.
- D. Live Stem Protection: Take care not to damage stem bark and branches throughout brush mat installation.
- E. Gravel layer: Cover secured stems with 3-inch gravel layer. Distribute gravel layer over live stem material so that approximately 60% of the total live stem material is exposed. Work gravel between and on top of stems taking care to

maintain stem and soil contact. Gravel may be lightly watered to facilitate stem to fines contact

- F. Coir Fabric: Cover brush mat with coir fabric. Anchor fabric above the top of bank and on the bank with wooden stakes. Extend fabric over stems into toe trench, stake, and cover fabric with rock-soil mix.
- G. Secure Stems: Drive notched stakes through coir fabric and willow stems into bank in a grid pattern as shown on Drawings. Leave adequate length of stake exposed in order to secure tie rope at each stake. Connect rope to stakes by tying or wrapping. Once the rope 'net' is in place and secure over brush mat, drive stakes further into bank in order to cinch and tighten net down over brush mat.
- H. Anchor Stems and Coir Fabric: Carefully place 50lb stone and Native Alluvium to backfill toe trench and completely anchor the cut end of stems and coir fabric.
- I. Transition Ends: Provide smooth transitions and tailor edges of brush mat to existing contours and vegetation. Anchor coir fabric in transition trench with live and wooden stakes and backfill with gravel and Native Material.

3.04 WILLOW BAFFLE INSTALLATION

- A. Trench: Excavate trench to the required dimension. Mound half of the excavated soil on the downstream side of the trench for the live stems to lean against.
- B. Stem Placement: The Revegetation Contractor shall remove all leaves from approximately 50% of the live stems. Lay live stems in the toe trench parallel to each other, with the cut ends in the toe trench. Stems shall be placed closely together at a minimum of ten (10) stems per linear foot, including five (5) of the de-leaved stems. Take care not to damage stem bark and branches throughout installation.
- C. Anchor Stems: Carefully backfill toe trench with 1 foot of Native Material. Place 2 layers of ballast rock on live stems filling voids in each course of rock. Completely backfill trench with Native Material. Compact backfill to 85% relative compaction using methods such as hand tamping, watering, vibratory plate, or similar.

3.05 LIVE POLE PLANTING

- A. Cut the basal (planting) end of the pole into a sharp point.
- B. Drive stake into subgrade with fence post driver, sledge hammer or similar. Stake length above ground shall be 1.5 ft.
- C. Cleanly cut frayed end of stake.

3.06 BRANCH BUNDLE INSTALLATION

- A. Excavate three (3) foot deep hole.
- B. Bind 6 to 8 stems securely with rope.
- C. Insert branch bundle into hole and backfill with spoils from the hole taking care to fill in between the branches with the spoils.
- D. Water may be used to facilitate the downward migration of spoils.

3.07 IRRIGATION AND MAINTENANCE

- A. Immediately upon installing structures, Contractor shall irrigate all live stems. Irrigate twice a week minimum until November 15, 2019.

*** END OF SECTION ***

SECTION 31 35 30
LOG STRUCTURES

PART 1 – GENERAL

1.01 SUMMARY

- A. This work consists of constructing Log Structures, including:
 - 1. Habitat Large Wood Structure
 - 2. Low Profile Large Wood Structure
- B. This work includes removing and salvaging select trees slated for demolition in a manner that keeps the rootwad of the tree intact. See Section 31 11 00 Clearing, Grubbing and Demolition.

1.02 RELATED WORK

- A. Section 31 11 00 Clearing, Grubbing and Demolition
- B. Section 31 23 00 Excavation and Fill
- C. Section 31 33 00 Rock Stabilization Structures

1.03 QUALITY ASSURANCE

- A. Installer Qualifications: The Contractor shall only use subcontractors and/or individuals with demonstrated experience installing large wood structures.
- B. Reference standards: Reference to “Standard Specifications” shall mean the Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, latest edition.

1.04 SUBMITTALS

- A. See Section 01 26 36 Submittal Procedures.
- B. Pinning Materials. Submit product data for a steel rebar, epoxy adhesive, rope, steel nut and washer plate for review and approval by Owner’s Representative.

1.05 COORDINATION

- A. The number of large wood structures to be constructed is dependent on the availability of trees on site for salvage that meet requirements below. Contractor

shall supply a list of eligible trees to Owner's Representative and coordinate for the number of structures and any design modification.

- B. Contractor shall anticipate cooperating with Revegetation Contractor for their contribution of hand labor to install plant materials as part of the large wood structures as described in the Drawings, in this section and other related work sections of these Technical Specifications.

PART 2 – PRODUCTS

2.01 LOG STRUCTURES

- A. Log Materials: The Contractor shall procure and transport all logs to the site. Logs generated by onsite tree removal activities may be considered for use in log structures provided they meet the following requirements and are approved by the Owner's Representative:
1. Logs shall be natural logs free of defects such as splitting, decay, and deep gouges.
 2. Minimum dimensions: As shown on the Drawings. Nomenclature: "A feet x B feet" is A feet diameter trunk and B feet total log length not including rootwad (measured from tip of trunk to the base of the rootwad).
 3. Species: *Acer macrophyllum* (Big Leaf Maple), *Alnus sp* (Alder), *Fraxinus latifolia* (Oregon Ash), *Populus fremontii* (Fremont cottonwood), *Quercus agrifolia* (Coast Live Oak), *Quercus kelloggii* (California black oak), *Quercus lobata* (Valley Oak), *Salix laevigata* (Red willow), *Juglans sp.* (Black walnut), *Salix sp.* (Willow species), and *Sequoia sempervirens* (Redwood) are approved species for use in the large wood structures. Alternative species to be approved by Owner's Representative prior to provision of materials.
 4. Rootwads: Rootwads shall be intact with trunk. Rootwad diameter (average, measured root-to-root endpoints) shall be 4-feet minimum, 8-feet maximum. Rootwad thickness (as measured from base of trunk to end of rootwad) shall be 2-feet minimum, 4-feet maximum. If directed by Owner's Representative, trim rootwads as needed to meet maximum dimensions.
- B. Rock Soil Mix: 50% Light Class RSP mixed with 50% Native Material, per Section 31 33 00 Rock Stabilization Structures and Section 31 23 00 Excavation and Fill respectively.
- C. Ballast Boulders, and Rock for Rock Soil Mix: See Section 31 33 00 Rock Stabilization Structures.

- D. Native Alluvium and Native Material: See Section 31 23 00 Excavation and Fill.
- E. Steel Rebar: 1-inch diameter Grade 60 Bar Reinforcement per Section 52 1.02 of the Standard Specifications, threaded on both ends. Rebar shall be of sufficient length such that in the finished condition a minimum of ½” of threads are exposed above the washer and nut.
- F. Epoxy Adhesive: Polyester resin adhesive, Hilti or equivalent
- G. Log Anchoring: Steel nut and washer plate (3-inch x 3-inch x ¼-inch thick)
- H. Willow Poles and Branch Bundles: per Section 31 35 10 Biotechnical Slope Protection.

PART 3 – EXECUTION

3.01 LOG TRANSPORT AND HANDLING

- A. Logs will be generated by Contractor from on site sources.
- B. The Contractor shall load and haul the logs to the Site for installation into the Work.
- C. The removed tree shall not be de-barked or altered in any way, other than pruned limbs and unavoidable impact during the handling process. Care should be taken when handling the tree to minimize damage to the tree trunk, branches, and rootwad, not limited to abrasion, splitting, crushing and shearing.
- D. Root wads shall be maintained intact throughout log loading, transport and handling.
- E. If logs are salvaged onsite by Contractor, trees shall be harvested using methods that preserve the integrity of the bole and leave the rootwad intact. The Contractor shall take care to preserve the root net within the rootwad, including large and small roots intertwined. Branches may be removed as needed to facilitate handling and installation.

3.02 CONSTRUCTION STAKING

- A. The Contractor shall stake the limits of each log structure as shown on the drawings. Place a minimum of two stakes per structure that indicate the location and orientation of the ends of the logs. The Contractor shall allow up to three days for review and approval of staking by the Owner’s Representative or Restoration Engineer. Structure staking shall be performed after grading has been completed. The Contractor shall adjust stakes as requested by the Owner’s Representative or Restoration Engineer to meet design dimensions and/or consistent with any adjustments to the creek baseline.

- B. The Contractor will be responsible for establishing offset stakes and maintain a system of control so that the Owner's Representative can verify that design intent is being met.

3.03 LOG STRUCTURES – GENERAL INSTALLATION

- A. Control of Work: Anticipate that each anchor boulder log will need to be selected individually and adjusted to obtain proper seating, embedment, and interlocking with adjacent structure elements. Anticipate reshaping and/or notching rootwads and logs at the contact point in order to achieve all requirements. Engineer must be present while logs are notched, trimmed or otherwise altered. Engineer must be present while transitions to adjacent grade are being constructed.
- B. Log Materials: The Contractor shall procure all logs and transport to the site. Logs generated by onsite tree removal activities may be considered for use in log structures provided they meet the requirements stated herein.
- C. Log Preparation: Trees shall be harvested using methods that preserve the integrity of the bole and leave the rootwad intact. The Contractor shall take care to preserve the root net within the rootwad, including large and small roots intertwined. Branches may be removed as needed to facilitate handling and installation. This work shall be performed by a qualified contractor under supervision by a certified arborist.
- D. Log Handling: The removed tree shall not be de-barked or altered in any way, other than pruned limbs and unavoidable impact during the handling process. Care should be taken when handling the tree to minimize damage to the tree trunk, branches, and rootwad, not limited to abrasion, splitting, crushing and shearing.
- E. Control of Work: The Contractor shall anticipate that each log will need to be placed individually in the presence of the Owner's Representative. The Contractor shall adjust each log as needed to obtain the proper orientation, embedment and interlocking of logs. The Contractor shall be prepared to shape rootwads and/or notch logs at the contact point in order to achieve all requirements. Logs shall only be notched, trimmed or otherwise altered in the presence of the Owner's Representative.
- F. Excavation: To the extent practicable, the contractor shall install log members with minimal disturbance to the subgrade. Where possible, embed rootwads by driving or pushing into subgrade, rather than excavating. The Contractor may excavate a pilot trench to establish desired angle and embedment of log if driving method is not feasible. Trenching for log installation shall conform to Section 19-1 and 19-3 of the Standard Specifications. The Contractors shall excavate only as needed to embed log members to the below grade depths indicated on the Drawings. Any over-excavation shall be backfilled and compacted to 90% relative compaction prior to any log placement.

- G. Anchor Boulders: Where shown on the Drawings, install anchor boulders to support certain logs. Overlying logs shall be in contact with the boulders. Embed boulders 6 inches minimum into channel bed.
- H. Ballast Boulders: Place ballast boulders as shown on Drawings and as directed by the Owner's Representative to resist log buoyancy. Select each boulder to meet the minimum required weight class and required dimensions of the structure. Boulders shall be embedded into key trench at least 50% of boulder height. Place boulders in trench prior to backfilling in direct contact with logs and as approved by Restoration Engineer. Contractor shall anticipate that placement of smaller boulders adjacent to the log may be required to achieve a stable foundation for placement of ballast boulders.
- I. Backfill: Log trenches shall be backfilled with rock-soil mix to the lines and dimensions shown on the Drawings. Place in 12-inch maximum lifts, fill voids with soil and compact to 90% relative compaction.
- J. Integration with Biotechnical Structures: Once log structure placement and soil backfill have been accepted, install branch bundles, and/or live pole planting as indicated on the Drawings. Coordinate construction of log and biotechnical structures as needed with Revegetation Contractor to produce one integrated installation.
- K. Rock/Soil Mix Placement: Installation must comply with the Standard Specifications Section 72-2 and these Special Provisions Section 72-12 and 72-13. The Rock/Soil Mix must be placed in lifts to create an integrated installation without voids to function as ballast on the logs and create a uniform base.

3.04 LOG-TO-BOULDER PINNING

- A. Pin log to underlying anchor boulder in presence of the Restoration Engineer in accordance with the follow requirements, or equivalent method as approved by the Owner's Representative.
- B. Each log must be individually pinned to an anchor boulder.
- C. Log and boulder shall be placed to required dimensions. Select and orient anchor boulder to achieve flat surface for the log. Center log on anchor boulder to extent practical.
- D. To the extent possible, place all logs and boulders in structure prior to pinning to reduce adjustments/settling after pinning.
- E. Use a drill bit that matches the epoxy manufacturer's recommendation for hole diameter relative to rod diameter, typically 1/16th inch larger than the diameter of the threaded rod.

- F. Drill the hole through the log and 9-inch minimum depth into boulder at locations free of fractures or other inconsistencies observed on the boulder's surface. Modify as needed per manufacturer's instruction. Clean drill hole per epoxy manufacturer's instructions for secure installation.
- G. Cut notch in top of log to counter sink washer and nut, 2-inch maximum depth.
- H. Epoxy rebar into boulder and let cure 24 hours minimum. Inject epoxy approximately 2/3 depth into boulder drill hole and insert rebar. Modify as needed per manufacturer's instructions. Epoxy shall not be applied in a submerged condition.
- I. Set plate and nut on exposed threaded end of rebar and tighten. The threaded rod shall extend 1/2" above nut. Cut any rebar protruding more than these dimensions above the nut. Use hammer or similar device to peen (i.e., "mushroom") rebar and nut connection to prevent loosening.

*** END OF SECTION ***