

SPECIFICATIONS

SANTA ANA WATERSHED
PROJECT AUTHORITY



SANTA ANA SUCKER
HABITAT PROTECTION AND
BENEFICIAL USE
ENHANCEMENT PROJECT

MAY 15, 2018

SPECIFICATIONS FOR THE
CONSTRUCTION OF

SANTA ANA SUCKER HABITAT PROTECTION AND BENEFICIAL USE
ENHANCEMENT PROJECT



PREPARED UNDER THE SUPERVISION OF:

NATHAN SCHEEVEL
C 80056

A handwritten signature in blue ink, appearing to read "Nathan Scheevel", written over a horizontal line.

(SIGNATURE)

5/9/2018

(DATE)

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AND
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INVITATION TO BID

Sealed Bids for construction of the Santa Ana Sucker Habitat Protection and Beneficial Use Enhancement Project, addressed to Santa Ana Watershed Project Authority (OWNER), will be received at the office of the General Manager, 11615 Sterling Avenue, Riverside, CA 92503, until 1:30 p.m. local time, on the 21st day of June 2018, and then will be publicly opened and read. Any Bids received after this specified time and date will not be considered.

The WORK includes the construction of a native fish habitat structure in the active low-flow channel of the Santa Ana River. The structure will be constructed of boulders, rocks, cobbles, pebbles and other materials as specified. The structure will occupy a footprint of approximately 650 square feet. The WORK includes the construction of access to the habitat structure area.

The WORK is located in the active and flowing low-flow channel of the Santa Ana River upstream of the Van Buren/Santa Ana River Crossing. The habitat structure will be located within Riverside County Regional Park and Open-Space District and the Riverside County Transportation District's right-of-way.

The WORK shall be completed in all respects within 30 successive calendar days from the effective date identified in the Notice to Proceed. All work is subject to CA Prevailing Wages and Davis Bacon Act requirements.

Bidding Documents may be examined, by appointment, in OWNER's office, Santa Ana Watershed Project Authority, 11615 Sterling Avenue, Riverside, CA 92503. For information concerning the proposed Work, contact Ian Achimore, telephone: (951) 354 - 4233, email: iachimore@sawpa.org.

Bidding Documents may be purchased from the OWNER's office for \$15. Please stop by the SAWPA office, call Zyanya Blancas at (951) 354 - 4220 or email zblancas@sawpa.org.

A mandatory pre-bid conference will be held on May 31, 2018 at 10:00 a.m. at the Project Site, located along the north side of the Santa Ana River along the east side of Van Buren Boulevard at the site access gate. Wear clothing and footwear that can get wet as the pre-bid conference will include walking in the active low-flow channel.

A Bid submittal consists of completed and executed forms contained in the Bid Forms section of the Bidding Documents. Return of the entire Bidding Document for the Bid Opening is neither required nor encouraged. The Bid Bond, included in the Bid Forms, must be completed, attached to the Bid and payable to the OWNER in an amount not less than 10 percent of the amount Bid.

The Successful Bidder will be required to furnish the necessary additional Bonds and Certificates for the faithful performance of the Work, as prescribed in the Contract Documents.

Each Bidder must be licensed in the State of California and qualified to perform the Work described in the Plans, Specifications, and Contract Documents. Pursuant to Public Contract

Code Section 3300, the CONTRACTOR must possess a General Engineering Contractor's License (Class "A") at the time that Bid Proposals are opened. Failure to possess such a License shall render any bid submitted as non-responsive. Before a contract will be awarded for the Work contemplated herein, the OWNER will conduct such investigation as is necessary to determine the performance record and ability of the apparent low Bidder to perform the size and type of work specified under this contract. Upon request, the Bidder shall submit such information as deemed necessary by the Owner to determine that the Bidder is responsive and responsible.

California prevailing wages or Federal Davis Bacon wage rates, whichever is higher, shall be paid to all construction workers on this project. The Director of the Department of Industrial Relations has established the prevailing rate of per diem wages for workers to be used on the job. This information is available on the Internet at:

<http://www.dir.ca.gov/DLSR/PWD/index.htm>, various regulations can be found at <http://www.dir.ca.gov/t8/ch8sb3.html> . The CONTRACTOR shall comply with California Labor Code and shall post a copy of the prevailing wages at the jobsite.

In accordance with California Public Code Section 3400, the CONTRACTOR shall have ten (10) days after Notice of Award is issued for submission of data substantiating a request for substitution of an "or equal" product.

The CONTRACTOR shall comply (and have a history of compliance) with the Executive Order 11246 entitled "Equal Employment Opportunity" as amended, and as supplemented in Department of Labor regulations (41 CFR Part 60).

Payment for the Work accomplished will be made upon completion and acceptance of the work by the OWNER.

OWNER reserves the right to reject all Bids or any Bid not conforming to the intent and purpose of the Bidding Documents. OWNER reserves the right to postpone the award of the contract(s) for a period of time without affecting the price bid; however, the Notice of Award shall not be delayed beyond 90 days from the Bid opening date.

INSTRUCTIONS TO BIDDERS

1. DEFINED TERMS.

Terms used in these Instructions to Bidders have the meanings assigned to them in the General Conditions.

Certain additional terms used in the Bidding Documents have the meanings indicated below which are applicable to both the singular and plural thereof.

1.1. *Bidder* - one who submits a Bid to OWNER as distinct from a sub-bidder, who submits a Bid to a Bidder.

1.2. *Apparent Low Bidder* - that Bidder whose Base Bid, as read at the Bid opening, appears to be the lowest total cost for the work bid.

1.3. *Base Bid* - total of the Lump Sum Work plus extended total for Unit Price Work as identified in the Bid Form.

1.4. *Successful Bidder* - lowest, responsible and responsive Bidder to whom OWNER issues a Notice of Award.

2. BIDDING DOCUMENTS.

2.5. The Bidding Documents include all Contract Documents as defined in the General Conditions as they exist prior to the Bid Opening. Complete sets of Bidding Documents must be used in preparing Bids. OWNER does not assume any responsibility for errors or misinterpretations resulting from use of incomplete sets of Bidding Documents.

3. RETAINAGE.

3.1. Retainage is set forth in the agreement.

4. QUALIFICATIONS OF BIDDERS.

4.6. To demonstrate qualifications to perform the Work, each Bidder must be prepared to submit, within 5 days after Bid opening, and upon OWNER's request, evidence, such as financial data, previous experience, present commitments, and other such data as may be relevant.

4.7. Nothing indicated herein will prejudice OWNER's right to seek additional pertinent information as is provided in the INVITATION TO BID.

5. PREBID CONFERENCE.

5.1 A mandatory pre-bid conference will be held on May 31, 2018 at 10:00 a.m. at the Project site.

6. LICENSE REQUIREMENTS.

6.8. The classification of Contractor's License a Bidder must hold to be eligible for consideration of a contract for the Work is listed in the Invitation to Bid.

7. EXAMINATION OF CONTRACT DOCUMENTS AND SITE.

7.9. It is each Bidder's responsibility, before submitting a Bid, to:

7.9.1. Examine thoroughly the Contract Documents and other related data identified in the Bidding Documents (including "technical data" referred to below).

7.9.2. Inspect the site during the mandatory pre-bid conference to become familiar with and satisfy Bidder as to the general, local, and site conditions that may affect cost, progress, performance, or furnishing of the Work.

7.9.3. Consider federal, state, and local Laws and Regulations that may affect cost, progress, performance, or furnishing of the Work.

7.9.4. Study and carefully correlate Bidder's knowledge and observations with the Contract Documents and such other related data.

7.9.5. Promptly notify OWNER of all conflicts, errors, ambiguities, or discrepancies which Bidder has discovered in or between the Contract Documents and such other related documents.

7.10. (Reserved)

7.11. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders on subsurface conditions, other physical conditions and Underground Facilities, and possible changes in the Contract Documents due to differing or unanticipated conditions appear in Section 4 of the General Conditions.

7.12. Before submitting a Bid, each Bidder will be responsible to obtain such additional or supplementary information which may affect cost, progress, performance, or furnishings of the Work and which the Bidder deems necessary to determine its Bid.

7.13. Reference is made to the General Requirements for identification of the general nature of work that is to be performed at the site(s) by OWNER or others and that relates to Work for which a Bid is to be submitted. On request, OWNER will provide to each Bidder, for examination, access to or copies of contract documents for such work by others that OWNER has possession and knowledge of.

7.14. The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of these Instructions to Bidders; that, without exception, the Bid is premised upon performing and furnishing the Work required by the

Bidding Documents and applying the specific means, methods, techniques, sequences, or procedures of construction (if any) that may be shown or indicated or expressly required by the Bidding Documents; that Bidder has given OWNER written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by OWNER is acceptable to Bidder; and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work and for preparing the Bid.

8. INTERPRETATIONS AND ADDENDA.

8.15. All questions about the meaning or intent of the Bidding Documents are to be directed in writing to OWNER. Interpretations or clarifications considered necessary by OWNER in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by the office issuing documents as having received the Bidding Documents. Questions received less than 3 days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect. Because of the urgency to begin this Work, Addenda will be emailed or faxed as late as the day before Bid Opening.

8.16. Addenda may also be issued to modify the Bidding Documents.

9. BID SECURITY.

9.17. Each Bid must be accompanied by Bid security made payable to OWNER in an amount of 10 percent of Bidder's maximum Bid price and in the form of a certified or cashier check or a Bid Bond on form attached, issued by a surety meeting the requirements of Section 5.1 of the General Conditions.

9.18. The Bid security of the apparent Successful Bidder will be retained until such Bidder has executed the Agreement, furnished the required Performance and Payment Bond(s), certificates of insurance, and met the other conditions of the Bidding Documents. If the apparent Successful Bidder fails to sign and deliver the Agreement and furnish the required Bond(s) and certificates of insurance within the time period specified in Item 22 EXECUTION OF AGREEMENT below, OWNER may annul the award and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders whom OWNER believes to have a reasonable chance of receiving the award may be retained by OWNER until the earliest of the 10th day after the execution of the Agreement by the Successful Bidder or the rejection of all Bids by the OWNER. Bid security submitted with Bids which are not competitive will be returned within 15 days after the Bid opening.

10. CONTRACT TIMES.

10.19. Contract Times are set forth in the Agreement.

11. LIQUIDATED DAMAGES.

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

12. SUBSTITUTE AND "OR-EQUAL" ITEMS.

12.21. The contract, if awarded, will be on the basis of materials and equipment shown on the Drawings or specified in the Specifications without consideration of possible substitute or "or-equal" items. Whenever it is shown on the Drawings or specified in the Specifications that a substitute or "or-equal" item of material or equipment may be furnished or used by CONTRACTOR, if acceptable to OWNER, application for such acceptance will not be considered by OWNER until after the Bid Opening. The procedure for submission of any such application by CONTRACTOR and consideration by OWNER is set forth in the Bid Forms.

13. SUBCONTRACTORS, SUPPLIERS, AND OTHERS.

13.22. Bidder shall submit with its Bid the names and business addresses of each proposed Subcontractor who will perform Work under these Bidding Documents in excess of 1/2 of 1 percent of the amount of the total Bid, and shall provide such other information for such Subcontractor as required in the Bid Forms. If the Bidder fails to specify a Subcontractor for any portion of the Work to be performed under the Bidding Documents, the Bidder agrees to perform that portion of the Work itself, and further agrees that it is qualified to perform that portion of the Work.

14. (Reserved)

15. WAGE RATES.

15.23. Refer to the Invitation to Bid for specifics.
All work is subject to CA Prevailing Wages and Davis Bacon Act requirements.

16. BID FORM.

16.24. The Bid Forms and other attachments are included with the Bidding Documents. No substitution of forms will be allowed.

16.25. All blanks on the Bid Form must be completed by typing or printing with ink. All price information shall be shown in both words and figures where required. No changes shall be made in the phraseology of the forms.

16.26. Bids by corporations must be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation must be shown above the signature.

16.27. Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear on the line below the signature.

16.28. All names must be typed or printed on the line with the signature.

16.29. The Bid shall contain an acknowledgement of receipt of all Addenda (the numbers of which must be filled in on the Bid Form).

16.30. The address and telephone number for communications regarding the Bid must be shown.

16.31. The Bid Form also lists certain equipment, product, or systems for which manufacturers or Suppliers for each are to be identified in the Bid Form, with the furnishing and installation cost included in the appropriate unit price item work. Failure to comply with this requirement will render the Bid nonresponsive.

17. SUBMISSION OF BIDS.

17.32. Bid Form and attachments may be photocopied for submission of Bids subject to all signatures being original.

17.33. Submit Bids not later than the time prescribed, at the place, and in the manner set forth in the Invitation to Bid. Enclose Bids, along with the Bid Security/Bond and other required attachments, in an opaque, sealed envelope, labeled with the Project Title and the name and address of Bidder. If the Bid is sent through the mail or other delivery system, the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face of it. Bids must be made on the prescribed Bid Form provided and submitted with the attachments listed below.

17.34. Bidders shall complete and submit the following attachments with its Bid:

Bid Security/Bond
Statement/Affidavit of Noncollusion
Acknowledgment of Insurance Requirements and Certification of Ability
to Provide Coverages Specified
Contractor References

17.35. Only one Bid from any individual, firm, partnership, or corporation, under the same or different names, will be considered. Should it appear to the OWNER that any Bidder is interested in more than one Bid for Work contemplated, all Bids in which such Bidder is interested will be rejected.

18. MODIFICATION AND WITHDRAWAL OF BIDS.

18.36. Bids may be modified or 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 at any time prior to the opening of Bids.

18.37. 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, that Bidder will be disqualified from further consideration on the Work to be provided under the Contract Documents.

19. OPENING OF BIDS.

19.38. Bids will be opened and read aloud publicly. A summary of the amounts of the Base Bids and major alternates (if any) will be made available to Bidders within 7 days after the date of Bid opening.

20. BIDS TO REMAIN SUBJECT TO ACCEPTANCE.

20.39. All Bids will remain subject to acceptance for 90 days after the date of the Bid opening, but OWNER may, in its sole discretion, release any Bid and return the Bid security prior to that date.

21. BASIS OF AWARD; AWARD OF CONTRACT.

21.40. If the contract is to be awarded, OWNER will give Successful Bidder a Notice of Award within 90 days after the day of the Bid opening.

21.41. OWNER reserves its right to reject any, or all, Bids, including without limitation the rights to reject any, or all, nonconforming, nonresponsive, unbalanced or conditional Bids, and to reject the Bid of any Bidder if OWNER believes that it would not be in the best interest of

the Project to make an award to that Bidder, whether because the Bid is not responsive, or the Bidder is unqualified, or of doubtful financial ability, or fails to meet any other pertinent standard or criteria established by OWNER. OWNER also reserves the right to waive any irregularity not involving price, time, or changes in the Work. Discrepancies in the quantity multiplied by unit price and the extended total amount will be resolved in favor of the quantity multiplied by unit price. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

21.42. In evaluating Bids, OWNER will consider the qualifications of Bidders, whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award. OWNER shall have the right to accept alternates in any order or combination unless otherwise provided in the Bidding Documents.

21.43. OWNER may consider the qualifications and experience of Subcontractors, Suppliers, and other persons and organizations proposed for those portions of the Work for which the identity was required. OWNER also may consider the operating costs, maintenance requirements, performance data, and guarantees of major items of materials and equipment proposed for incorporation in the Work when such data are required to be submitted prior to the Notice of Award.

21.44. OWNER may conduct such investigations as OWNER deems necessary to assist in Bid evaluation and to establish responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, and other persons and organizations to execute Work in accordance with the Contract Documents to OWNER's satisfaction within the prescribed time.

21.45. If, at the time this contract is to be awarded, the total of the lowest acceptable Bid exceeds the funds then estimated by the OWNER as available, the OWNER may reject all Bids or take such other action as best serves the OWNER's interests.

21.46. If the contract is to be awarded, it will be awarded to lowest Bidder whose evaluation by OWNER indicates to OWNER that the award will be in the best interests of the OWNER.

21.47. In the event of failure of the Successful Bidder to sign the Agreement and provide an acceptable Performance and Payment Bond(s), insurance certificate(s), and other required documents, the OWNER may award the contract to the next lowest responsive, responsible Bidder.

22. EXECUTION OF AGREEMENT.

22.48. When OWNER gives a Notice of Award to Successful Bidder, it will be accompanied by unsigned copies of the Agreement and other appropriate documents. Within 7 calendar days thereafter, CONTRACTOR shall sign and deliver the copies of the Agreement and, attached documents, along with acceptable Performance and Payment Bond(s) and insurance certificate(s), to OWNER. Within 7 days thereafter, OWNER shall deliver two fully executed copies of the Agreement to CONTRACTOR.

END OF SECTION

BID FORM AND ATTACHMENTS CHECKLIST

This checklist is provided as a convenience to bidders in areas where past experience indicates such instruction can be helpful. It is not represented as being comprehensive and compliance therewith does not relieve the bidder of responsibility for compliance with any bid requirement which may not be mentioned specifically in these instructions.

Complete Santa Ana Sucker Habitat Protection and Beneficial Use Enhancement Project Bid Package for submission consists of:

	Document	Completed by	Signed by
	Bid Form	Contractor	Contractor
	Bid Bond	Contractor and Surety	Contractor and Surety
	Non-collusion Affidavit	Contractor	Notarized Signature of Contractor
	Acknowledgement of Insurance Requirements and Certification of Ability to Provide Coverage Specified	Insurance Provider and/or Insurance Provider' Agent	Insurance Provider and/or Insurance Provider's Agent
	Contractor References	Contractor	Contractor

NOTE TO BIDDER: Use BLACK ink for completing this Bid Form.

BID FORM

To: Santa Ana Watershed Project Authority

Address: 11615 Sterling Avenue
Riverside, California 92503

Project Identification: Santa Ana Sucker Habitat Protection and Beneficial Use
Enhancement Project

1. **BIDDER'S DECLARATION AND UNDERSTANDING.**

1.49. This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm, or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization, or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any person, firm, or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.

1.50. Bidder acknowledges that no special interpretation or inference of intent is to be given to different formats of different Specification sections.

1.51. In submitting this Bid, Bidder acknowledges and accepts CONTRACTOR's REPRESENTATIONS as more fully set forth in the Agreement.

2. **CONTRACT EXECUTION AND BONDS.**

2.52. The undersigned Bidder agrees, if this Bid is accepted, to enter into an Agreement with OWNER on the form included in the Bidding Documents to perform and furnish Work as specified or indicated in the Bidding Documents for the Contract Price derived from the Bid and within the Contract Times indicated in the Agreement and in accordance with the other terms and conditions of the Bidding Documents.

2.53. Bidder accepts the terms and conditions of the Bidding Documents.

3. **INSURANCE.**

3.54. Bidder further agrees that the Bid amount(s) stated herein includes specific consideration for the specified insurance coverages.

4. **CONTRACT TIMES.**

4.55. Contract completion times are specified in the Agreement.

5. **LIQUIDATED DAMAGES.**

5.56. Bidder accepts the provisions in the Agreement as to liquidated damages.

6. ADDENDA.

6.57. Bidder hereby acknowledges that it has received Addenda

No's. _____, _____, _____, _____, _____, _____, _____,
(Bidder shall insert No. of each Addendum received) and agrees that Addenda issued are hereby made part of the Contract Documents, and Bidder further agrees that this Bid includes impacts resulting from said Addenda.

7. SUBCONTRACTORS.

7.58. Bidder further proposes that the following firms or businesses will be awarded subcontracts for the following portions of the Work in the event that Bidder is awarded the contract. The name and locations of place of business of each Subcontractor who will perform work or labor or render service to the general CONTRACTOR in or about the construction of the Work or improvements in an amount in excess of one-half of one percent of the general CONTRACTOR's total Bid, and the portion of the Work which will be done by each Subcontractor is set forth as follows:

Name

_____, _____, _____, _____
Street City State Zip

CONTRACTOR's License No.

Portion (Type of Work)

Name

_____, _____, _____, _____
Street City State Zip

CONTRACTOR's License No.

Portion (Type of Work)

Name

_____, _____, _____, _____
Street City State Zip

CONTRACTOR's License No.

Portion (Type of Work)

Name

_____, _____, _____, _____
Street City State Zip

CONTRACTOR's License No.

Portion (Type of Work)

8. SALES AND USE TAXES.

8.59. The Bidder agrees that all federal, state, and local sales and use taxes are included in the stated Bid prices for the Work.

9. BASE BID

9.1.1. Unit Price Work:

Bidder further proposes to accept as full payment for the Unit Price Work proposed herein the amounts computed under the provisions of the Contract Documents and based on the following unit price amounts, it being expressly understood that the unit prices are independent of the exact quantities involved. Bidder agrees that the unit prices represent a true measure of the labor, materials, and services required to furnish and install the item, including all allowances for overhead and profit for each type and unit of Work called for in these Contract Documents.

The scope of work described in the Contract Documents which are not listed in the schedule of work items of the bid form are, in general, applicable to more than one listed work item, and no separate work item is provided therefore. The CONTRACTOR shall include the cost of work not specifically listed, but necessary, to complete the project designated in the Contract Documents in the various listed work items of the provided bid form.

All submitted bids for the work shall establish a total cost for the work in its entirety. Should the CONTRACTOR feel that the cost for the work has not been established by specific items in the bid form, he/she shall include the cost for that work in a related bid item so that his/her proposal for the project does reflect his/her total cost for completing the work in its entirety.

9.1.2. Delete-able Bid Items

Award of the project will be based on the Total Base Bid as defined in the Base Bid Summary.

Any time after the bid opening, the OWNER may select one or more bid items to be deleted from the project scope to meet the OWNER's project objectives. The OWNER will have exclusive authority in selection of bid items to be deleted. The following bid items may be deleted at the OWNER's discretion.

- i) BID ITEM 14
- ii) BID ITEM 15

Item	Description	Quantity	Unit	Unit Price	Extended Total Amount
1)	Mobilization, Demobilization & Cleanup (not to exceed 5 % of total bid price.)	1	LS	\$	\$
2)	Sheeting, Shoring, Bracing & Cal/OSHA	1	LS	\$	\$
3)	Erosion Control, Dust Control & BMPs	1	LS	\$	\$
4)	Surveys	1	LS	\$	\$
5)	Construction Water	1	LS	\$	\$
6)	Water Management (River, Surface & Subsurface)	1	LS	\$	\$
7)	Vehicle & Pedestrian Traffic Control	1	LS	\$	\$
8)	Clearing, Grubbing, Demolishing & Site Preparation	1	LS	\$	\$
9)	On-Site Grading	0.95	AC	\$	\$
10)	Material Export	220	CY	\$	\$
11)	Finish Grading & Restore Site	2.28	AC	\$	\$
12)	Access Road Construction	1	LS	\$	\$
13)	Access Road Aggregate Including Trucking	50	CY	\$	\$
14)	Base, Groin & Apron Aggregate Import Including Trucking DELETEABLE BID ITEM	100	CY	\$	\$
15)	Boulder Import Including Trucking DELETEABLE BID ITEM	4	EA	\$	\$
16)	Groin & Boulder Base Construction	20	CY	\$	\$
17)	Groin Main Structure Construction	30	CY	\$	\$
18)	Habitat Aprons Construction	50	CY	\$	\$
19)	Boulder Placement	4	EA	\$	\$
TOTAL OF EXTENDED AMOUNT FOR UNIT PRICE WORK LISTED ABOVE					\$

9.2. Base Bid Summary

9.2.6. Total of Extended Amount for Unit Priced Item Work

\$ _____

9.2.7. Total Adjustment (add or delete)

\$ _____

(Identify Bid Item(s) impacted by adjustment) Item Nos. _____

TOTAL BASE BID

\$ _____

TOTAL BASE BID (in words) _____

9.3. Material Suppliers

9.3.8. Bidder further proposes that the following material suppliers will be awarded subcontracts for the following portions of the work in the event that Bidder is awarded the Contract. Failure to fill out this list will render the Bid nonresponsive.

9.3.2. All materials installed on this project shall be manufactured in the United States of America unless prior approval is obtained.

Suppliers Name _____

Street Address _____

City _____ State _____ Zip _____

Suppliers Name _____

Street Address _____

City _____ State _____ Zip _____

10. SURETY.

10.3. If Bidder is awarded a construction contract from this Bid, the surety who provides the Performance and Payment Bond(s) is

Surety's Name
Street Address
City State Zip

11. LICENSE.

11.4. Class _____, California Contractor License No.: _____

12. BIDDER. As appropriate, complete signature block below for 'An Individual', 'A Partnership', 'A Corporation', OR 'A Joint Venture.'

An Individual

By _____
(Individual's printed Name and Signature)

Name, Phone Number, and Address for receipt of official communications and for additional information on this Bid:

(Printed Name, Phone Number)

(Address)

SUBMITTED ON _____, 20__.

A Partnership

By _____
(Partnership name)

(Printed Name and Signature of general partner)

(Title)

Name, Phone Number, and Address for receipt of official communications and for additional information on this Bid:

(Printed Name, Phone Number

(Address)

SUBMITTED ON _____, 20__.

A Corporation

By _____
(Corporation name)

(Corporate Address)

(State of incorporation)

By _____
(Printed Name and Signature of person authorized to sign)

(Title)

(Corporate Seal)

Attested by:
(Printed Name and Signature of Corporations Secretary, or Assistant Secretary)

Name, Phone Number, and Address for receipt of official communications and for additional information on this Bid:

(Printed Name, Phone Number)

(Address)

SUBMITTED ON _____, 20__.

A Joint Venture

By _____
(Business name)

(Printed Name and Signature of person authorized to sign)

By _____
(Business name)

(Printed Name and Signature of person authorized to sign)

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

Name, Phone Number, and Address for receipt of official communications and for additional information on this Bid:

(Printed Name, Phone Number)

(Address)

SUBMITTED ON _____, 20__.

END OF SECTION

BID BOND

BOND NO. _____

AMOUNT: \$ _____

KNOW ALL MEN BY THESE PRESENTS, that _____

hereinafter called the PRINCIPAL, and _____

a corporation duly organized under the laws of the State of _____

having its principal place of business at _____

_____ in the State of _____

and authorized to do business in the State of California, as SURETY,

are held and firmly bound unto Santa Ana Watershed Project Authority (SAWPA),

as OWNER, hereinafter called the OBLIGEE, in the sum of _____

_____ DOLLARS (\$ _____)

for the payment for which we bind ourselves, our heirs, executors, administrators, successors,
and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS BOND IS SUCH THAT:

WHEREAS, the PRINCIPAL is herewith submitting his or its Bid for _____

said Bid, by reference thereto, being hereby made a part hereof.

NOW, THEREFORE, if said Proposal shall be rejected, or in the alternate, if said Proposal shall be accepted and the PRINCIPAL shall sign and deliver a Contract to OBLIGEE, in the form of Contract attached hereto and shall execute and deliver Performance and Payment Bonds in the forms attached hereto (all completed in accordance with said Proposal) to OBLIGEE, and shall in all other respects perform the agreement created by the acceptance of said Proposal;

Then, this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the SURETY for any and all default of the PRINCIPAL hereunder shall be the amount of this obligation as herein stated.

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

In case suit is brought upon this Bond, SURETY shall pay OWNER all court costs and actual attorneys' fee incurred by OWNER.

IN WITNESS THEREOF, the above-bounded parties have executed this instrument under their several seals, the name and corporate seal of each corporate party being hereto affixed and those presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Signed and sealed this _____ day of _____, 20_____

PRINCIPAL

By_____
(Printed Name/Title)

SURETY

By_____
Attorney-In-Fact

The rate of premium on this bond is _____ per thousand.

Total amount of premium charged \$_____.

NONCOLLUSION AFFIDAVIT
(to be executed by Bidder and submitted with Bid)

STATE OF _____ }
COUNTY OF _____ } ss.

_____, being first duly sworn, deposes and

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

Name of Contractor

Bidder (Affiant)

Subscribed and sworn to before me this _____ day of _____, 20_____.

My commission expires: _____

Notary Public

INSURANCE REQUIREMENTS ACKNOWLEDGEMENT

Insurance Requirement Summary

The CONTRACTOR shall purchase and maintain insurance provided by insurance companies admitted in and regulated by the State of California, as required in the Contract Documents, and in amounts equal to the requirements set forth in the Contract Documents, and shall not commence work under this contract until all insurance required by the Contract Documents is obtained in a form acceptable to the OWNER, nor shall the CONTRACTOR allow any subcontractor to commence work on a subcontract until all insurance required for the Subcontractor has been obtained.

The CONTRACTOR shall provide the insurance Certifications and Endorsements on the forms provided in the appendix of the Contract Documents. Such insurance shall include as additional insureds: OWNER, its commissioners, OWNER's employees, consultants, and all public agencies from whom permits will be obtained for this contract; coverage of each named entity shall include their directors, officers, employees and agents. The insurance required herein shall provide that the coverage is Primary, and that no other insurance carried by OWNER will be called upon to contribute to a loss. Insurers must have a current Best's rating of "A" and a current Best's financial rating of at least Class VII.

The CONTRACTOR shall also expressly name the OWNER, and its officers, directors, employees, agents and consultants as "additional insured" under the insurance policies.

OWNER reserves the right to establish different coverage limits for Public Liability and Property Damage including Motor Vehicle by so providing in writing as an official notice, as a permit requirement, or as a requirement contained elsewhere in the Contract Documents. In such event, the coverage limits therein shall prevail, otherwise, the CONTRACTOR shall meet the following requirements:

A. Workers' Compensation and Employer's Liability Insurance: The CONTRACTOR shall provide Workers' Compensation Insurance as required by the Labor Code of the State of California. The CONTRACTOR shall require all Subcontractors similarly to provide such Workers' Compensation Insurance for all the latter's employees. CONTRACTOR shall provide Employer's Liability Insurance of at least \$1,000,000 per occurrence for bodily injury or death. The CONTRACTOR shall furnish OWNER and the engineer and their additional insureds with an Endorsement of Waiver of Subrogation under the terms of the Workers' Compensation Insurance.

B. General Liability and Property Damage Insurance: The CONTRACTOR shall carry and maintain general liability insurance coverage for bodily injury, personal injury, including death, and property damage in the sums of not less than \$5,000,000 per occurrence, and property damage in the sum of not less than \$500,000 resulting from, any one accident or any one occurrence which may arise from the operation of the

CONTRACTOR in the performance of the project. The policy(ies) shall include a "Cross Liability" and/or "Severability of Interest" clause.

The Liability Insurance Coverage shall include each of the following types of insurance:

- 1) Owner's and, Contractor's Protective.
- 2) XCU Hazard.
- 3) Products/Completed Operations Hazard.
- 4) Contractual Insurance.
- 5) Broad Form Property Damage, including Completed Operations.
- 6) Personal Injury/Wrongful Death.
- 7) Premises Operation.

C. Motor Vehicle Public Liability And Property Damage Insurance: The CONTRACTOR shall carry and maintain motor vehicle liability insurance for bodily injury, personal injury and property damage insurance coverage on each automobile, truck and other vehicles which are used in the performance of the contract in an amount of not less than \$5,000,000 per occurrence. The vehicle liability insurance shall include each of the following types:

- 1) Comprehensive form, including loading and unloading.
- 2) Owned.
- 3) Hired.
- 4) Non-owned.

D. Builder's Risk (Course Of Construction) Insurance: The CONTRACTOR shall maintain such all risk insurance with limits of at least the completed value of the project plus equipment with no coinsurance penalty. OWNER shall be named as loss payee.

Each of the policies of insurance provided for shall contain a clause substantially in the following words:

"It is hereby understood and agreed that this policy may not be canceled nor the amount of the coverage thereof be reduced until thirty (30) days after receipt by OWNER and its additional insureds of a written notice of such cancellation or reduction in coverage, by certified mail."

If an insurance coverage is canceled, the Contractor shall have a replacement policy in force prior to the cancellation of the previous with the same conditions and requirements as stated herein.

The Contractor shall have presented, at the time of execution of the Contract, the Insurance Certifications and Endorsements required in the Contract Documents.

ACKNOWLEDGEMENT OF INSURANCE REQUIREMENTS AND
CERTIFICATION OF ABILITY TO PROVIDE COVERAGE SPECIFIED

(To be filled out by Insurance Agent, Carrier, Provider)

I, _____, the _____ of
(President, Manager, Owner)

_____certifies that these insurance
(Name of Company, Corporation)

requirements have been read and understood and that _____
(Insurance Providers Name)
is able to provide the coverage, as specified.

Signature of President, Manager, Owner

Date

Signature of Insurance Agent, Carrier, Provider

Date

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CONTRACTOR REFERENCES

The following are names, addresses, phone numbers and contact person for three public agencies for which CONTRACTOR has performed similar work within the past five years:

NAME/TITLE:	
ADDRESS:	
PHONE:	
CONTRACTOR:	PROJECT NAME:
COST:	LENGTH:
NAME/TITLE:	
ADDRESS:	
PHONE:	
CONTRACTOR:	PROJECT NAME:
COST:	LENGTH:
NAME/TITLE:	
ADDRESS:	
PHONE:	
CONTRACTOR:	PROJECT NAME:
COST:	LENGTH:

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AGREEMENT

THIS AGREEMENT is between the Santa Ana Watershed Project Authority (hereinafter called OWNER) and _____ (hereinafter called CONTRACTOR). OWNER and CONTRACTOR may be individually referred to as “Party” or collectively as “the Parties”. OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

1. WORK.

12.5. CONTRACTOR shall complete WORK as specified or indicated in the Contract Documents entitled Santa Ana Sucker Habitat Protection and Beneficial Use Enhancement Project. The WORK is generally described as follows: the construction of a native fish habitat structure in the active low-flow channel of the Santa Ana River. The structure will be constructed of boulders, rocks, cobbles, pebbles and other materials as specified. The structure will occupy a footprint of approximately 650 square feet. The WORK includes the construction of access to the habitat structure area.

2. ENGINEER.

2.6. OWNER is acting in the capacity of its own ENGINEER or has hired an Engineer to act on its behalf. The OWNER may, at any time, designate third parties to act on the OWNER’s behalf. The terms OWNER and ENGINEER are used interchangeably in the Contract Documents, unless otherwise specified.

3. CONTRACT TIMES AND LIQUIDATED DAMAGES.

3.1. Contract Times: CONTRACTOR shall achieve Substantial Completion within 30 calendar days from the commencement date stated in the Notice to Proceed. The WORK shall be completed and ready for final payment within 35 calendar days from the date when the Notice of Completion is filed with the County Recorder.

3.2. The WORK includes activities within environmentally sensitive habitat areas. These areas include the OWNER provided source material locations, the Santa Ana River overbanks, floodplain and Santa Ana River low-flow channel. The OWNER may, at any time, direct the CONTRACTOR to temporarily halt, or break, work for up to seven (7) consecutive, or non-consecutive, calendar days without additional cost to the OWNER. OWNER directed breaks in the WORK will not count against the CONTRACTOR as expended contract time and contract time extensions will be granted accordingly.

3.3. Liquidated Damages: OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the WORK is not completed within the times specified in paragraph 3.1 above, plus any extensions thereof. The Parties recognize the delays, expense, and difficulties involved in proving in a legal or other dispute resolution process 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, in addition to all other damages to which OWNER may be entitled other than delay damages, (but not as a penalty) CONTRACTOR shall pay OWNER two thousand five hundred

dollars (\$2,500.00) for each day that expires after any of the times or deadlines specified in paragraph 3.1 above, including Substantial Completion, Completion or the Milestone Dates.

4. CONTRACT PRICE.

4.3. OWNER shall pay CONTRACTOR for completion of the WORK in accordance with the Contract Documents in current funds the amount set forth in the Bid Schedule (included as an Exhibit to this Agreement), for a total contract price of _____ (\$_____).

5. RETENTION.

5.4. OWNER shall retain five (5) percent from the progress payments.

5.5. CONTRACTOR may elect to substitute securities of equivalent value in accordance with the requirements and procedures of Section 22300 of the Public Contract Code of the State of California.

6. INTEREST.

6.6. Monies not paid when due as provided in the Invitation to Bid and in Section 14 of the General Conditions shall accrue interest at the rate of one quarter (1/4%) percent per month.

7. CONTRACTOR'S REPRESENTATIONS.

7.7. In order to induce OWNER to enter into this Agreement, CONTRACTOR makes the following representations:

7.7.9. CONTRACTOR has thoroughly investigated and reviewed the Contract Documents, site, locality, general nature of WORK to be performed by CONTRACTOR or others at the site that relates to the WORK required by the Contract Documents, the physical conditions of the WORK site and area, and federal, state, and local Laws and Regulations that may affect, directly or indirectly, cost, progress, performance, or completion of the WORK.

7.7.2. CONTRACTOR has obtained such additional or supplementary information which may affect cost, progress, performance, or furnishings of the Work and which the CONTRACTOR believes may affect the cost, progress, performance, or completion of the WORK and as CONTRACTOR deems necessary for the performance and completion of the WORK at the Contract Price, within the Contract Times, and in accordance with the terms of the Contract Documents: CONTRACTOR represents that no additional examinations, investigations, explorations, tests, reports, or similar information or data are or will be required by CONTRACTOR in order to perform and complete the WORK.

7.7.3. CONTRACTOR has thoroughly investigated and reviewed the information and data shown or indicated in the Contract Documents on the existing Utilities at or contiguous to the site and has included in its bid sufficient funds to cover all associated costs, without expectation of additional compensation.

7.7.4. CONTRACTOR has given OWNER written notice of conflicts, inconsistencies, errors, ambiguities, or discrepancies that it has discovered in the Contract Documents,

and the written resolution thereof by OWNER is acceptable to CONTRACTOR, and the Contract Documents are sufficient to indicate and convey the understanding of terms and conditions for performing and furnishing the WORK. It shall be conclusively presumed that CONTRACTOR waives any claim that it may have, now or in the future, concerning any such conflicts, inconsistencies, errors, ambiguities or discrepancies.

7.1.5. CONTRACTOR assumes all risks for the following: All loss and damages which may arise out of the nature of the WORK required by the Contract Documents, or from the action of the elements, or from any unforeseen difficulties which may arise or be encountered in the prosecution of the WORK until acceptance by the OWNER, together with all risks in connection with the WORK and any and all expenses incurred by or in consequence of any suspension or discontinuance of the WORK, except where the Contract Documents expressly provides that such costs are to be borne by the OWNER.

7.1.7. CONTRACTOR understands, accepts and has included in its bid, as part of the WORK, the responsibility to perform and pay for the following:

7.1.7.1. The design and implementation of any required shoring.

7.1.7.2. The design and implementation of any required traffic control plans, traffic permits including mobilization, demobilization and all other site access requirements.

7.1.7.3. Materials testing through an independent laboratory, including concrete mix design, material gradation analysis, sampling and testing, and; any other materials testing required in the Contract Documents.

7.1.7.4. The costs of having OWNER perform any plant or source material inspections identified in the Contract Documents.

7.1.7.5. The protection of and/or replacement cost of any survey staking performed by OWNER as identified in the Contract Documents.

7.1.7.6. The additional costs to retest failed inspection tests incurred by the OWNER.

7.1.7.7. The additional costs incurred by OWNER providing overtime inspection services as identified in the Contract Documents.

8. CONTRACT DOCUMENTS.

8.8. The Contract Documents which comprise the entire Agreement between OWNER and CONTRACTOR concerning WORK are defined in Section 1 of the General Conditions.

9. WORKERS COMPENSATION INSURANCE.

9.9. By signing this Agreement, CONTRACTOR represents that it is aware of, and compliant with, the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that code, and it will comply with such provisions before commencing the performance of the WORK of this Agreement.

10. ARBITRATION.

10.1. Any dispute which may arise under this Agreement by and between the OWNER and the CONTRACTOR, including the CONTRACTOR's subcontractors, laborers, and suppliers, shall be submitted to binding arbitration. The arbitrator shall decide each and every dispute in accordance with the laws of the State of California, and all other applicable laws. Unless the

Parties stipulate to the contrary in writing, prior to the appointment of the arbitrator, all disputes shall be first submitted to non-binding mediation.

11. MISCELLANEOUS.

11.10. This Agreement and the Contract Documents may not be assigned by the CONTRACTOR without the written consent in advance of the OWNER. Monies that may become due and monies that are due may not be assigned without such written consent, and any such assignment will not release or discharge the CONTRACTOR from its obligations under the Contract Documents.

11.11. OWNER and CONTRACTOR each binds itself, its partners, successors, assigns, and legal representatives to the other Party hereto, its partners, successors, assigns, and legal representatives in respect of all covenants, agreements, and obligations contained in the Contract Documents.

11.12. If any arbitration or court action is commenced to enforce or interpret the terms of the Contract Documents, each Party shall bear its own attorneys' fees, costs, and other disbursements in pursuing such action. However, if any third party action is filed against the OWNER to enforce a Stop Notice or other claim related to the Contract Documents, the OWNER shall be entitled to recover from CONTRACTOR its attorneys' fees, costs, and other disbursements incurred in resolving or defending against such third-party action.

11.4. This Agreement, and the Contract Documents incorporated herein, constitutes the entire agreement between the Parties. No oral or written communications or negotiations that occurred before or during the execution of this Agreement will be considered to be a part of the Contract Documents. The Contract Documents can be modified only by a written document signed by both Parties or as may be provided in the Contract Documents.

11.5. There are no intended third party beneficiaries of any right or obligation assumed by the Parties under the Contract Documents.

11.6. This Agreement may be signed in counterparts. Each person executing this Agreement represents that the execution of the Agreement has been duly authorized by the Party on whose behalf the person is executing the Agreement, and that such person is authorized to execute the Agreement on behalf of such Party.

11.7. If any provision of the Contract Documents is determined by an arbitrator or court of law to be illegal or unenforceable, the same shall be severed from the Contract Documents, and the remainder of the Contract Documents shall be given full force and effect.

11.8. Time is of the essence of the Contract Documents.

11.9. All insurance required in the Contract Documents shall be maintained at a minimum for the duration of the term of the Contract, unless otherwise specified in the Contract Documents.

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed ____ copies of this Agreement.
All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR.

OWNER: Santa Ana Watershed Project
Authority

Dated: _____ By _____
RICHARD E. HALLER, General Manager

Address for giving notices: SAWPA, 11615 Sterling Avenue, Riverside, CA 92503

CONTRACTOR: _____
License No. _____

Date _____ By _____
(President or Vice-President)
(Name and Title)

Date _____ By _____
(Secretary or Treasurer)
(Name and Title)

[CORPORATE SEAL]
(If CONTRACTOR is a corporation, attach evidence of authority
to sign.)

Address for giving notices: _____

Agent for service of process: _____

PERFORMANCE BOND

BOND NO.: _____

PREMIUM: _____

WHEREAS, the _____, (hereinafter designated as "Obligee") and _____ (hereinafter designated as "Principal") have entered into an agreement whereby principal agrees to install and complete certain designated public improvements, which said agreement, dated _____, and identified as project _____ is hereby referred to and made a part hereof; and

WHEREAS, said principal is required under the terms of said agreement to furnish a bond for the faithful performance of said agreement;

NOW, THEREFORE, we, the principal and _____ as surety, are held and firmly bound unto the Obligee in the penal sum of _____ dollars (\$_____) lawful money of the United States for the payment of which sum well and truly to be made, we bind ourselves, our heirs, successors, executors and administrators, jointly and severally firmly by these present.

The condition of this obligation is such that if the above bound Principal, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and provisions in the said agreement and any alteration thereof made as therein provided, on his or their part, to be kept and performed and at the time and in the manner therein specified in the Agreement, and in all respects according to their true intent and meaning, and shall indemnify and save harmless the Obligee, its officers, agents and employees, as therein stipulated, then this obligation shall be come null and void; otherwise it shall be and remain in full force and effect.

As part of the obligation secured hereby and in addition to the face amount specified therefore, shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by the Obligee in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

The surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Agreement or to the work to be performed thereunder or the specification accompanying the same shall in any wise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the agreement or to the work or to the specifications.

IN WITNESS WHEREOF, this instrument has been duly executed by the principal and surety above named, on

By: _____
PRINCIPAL

By: _____
PRINCIPAL

By: _____
(ATTORNEY-IN-FACT)

PAYMENT BOND

BOND NO.: _____

KNOW ALL MEN BY THESE PRESENT, that we, _____ as Principal, and _____, incorporated under the laws of the State of California and authorized to execute bonds and undertakings as sole surety, as Surety, are held and firmly bound unto any and all persons named in California Civil Code Section 1181 whose claim has not been paid by the contractor, company or corporation, in the aggregate total of dollars (\$_____), for the payment whereof, well and truly to be made, said Principal and Surety bind themselves, themselves, their heirs, administrators, successors and assigns, jointly and severally, firmly by these present.

The condition of the foregoing obligation is such that; whereas the above bound Principal has entered into a contract, dated _____, with the _____, to do the following work, to-wit:

NOW, THEREFORE, if the above bound Principal contractor, person, company or corporation, or his or its subcontractor, fails to pay any claimant named in Section 3181 of the Civil Code of the State of California, or amounts due under the Unemployment Insurance Code, with respect to work or labor performed by any such claimant, that, the Surety on this bond will pay the same, in an amount not exceeding the aggregate sum specified in this bond, and also in case suit is brought upon this bond, a reasonable attorney's fee, which shall be awarded by the court to the prevailing party in said suit, said attorney's fee to be taxed as costs in said suit.

This bond shall inure to the benefit of any person named in Section 3181 of the Civil Code of the State of California so as to vie a right of action to them or their assignees in any suit brought upon this bond.

This bond is executed and filed to comply with the provisions of the act of Legislature of the State of California as designated in Civil Code Sections 3247-3252 inclusive, and all amendments thereto.

Signed and sealed this _____ day of _____, 20____.

By: _____

By: _____
(ATTORNEY-IN-FACT)

GENERAL CONDITIONS

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GENERAL CONDITIONS

SECTION 1 - DEFINITIONS

Wherever used in these General Conditions or in the other Contract Documents the following terms have the meanings indicated in this Section 1 which meanings are applicable to both the singular and plural thereof. If a word which is entirely in upper case in these definitions is found in lower case in the Contract Documents, then the lower case word will have its ordinary meaning.

Addenda - Written or graphic instruments issued prior to the opening of Bids which make additions, deletions, or revisions to the Contract Documents.

Agreement - The written contract, including the Contract Documents, between the OWNER and the CONTRACTOR covering the WORK to be performed.

Application for Payment - The form accepted by the ENGINEER which is to be used by the CONTRACTOR to request progress payments or final payment and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

Bid - The offer or proposal of the Bidder submitted on the prescribed form setting forth the price or prices for the WORK.

Bonds - CONTRACTOR's Bid, Performance, and Payment Bonds and other instruments of security.

Change Order - A document issued by the OWNER, authorizing an addition, deletion, or revision in the WORK, or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

Clarification - A document issued by the ENGINEER to the CONTRACTOR that interprets the requirement(s) and/or design intent of the Contract Documents, which does not represent an addition, deletion, or revision in the WORK or an adjustment in the Contract Price or the Contract Times.

Contract Documents - The Notice Inviting Bids, Instructions to Bidders, Bid Forms (including the Bid, Bid Schedule(s), Information Required of Bidder, Bid Bond, and all required certificates, affidavits and other documentation), Agreement, Performance Bond, Payment Bond, General Conditions, Supplementary General Conditions, Technical Specifications, Drawings, Greenbook (SSPWC), all Addenda, and Change Orders executed pursuant to the provisions of the Contract Documents, covering the Work to be performed. Shop Drawings and Geotechnical Reports are not Contract Documents.

Contract Price - The total monies payable by the OWNER to the CONTRACTOR under the terms and conditions of the Contract Documents.

Contract Times - The number or numbers of successive calendar days or dates stated in the Contract Documents for the completion of the WORK.

CONTRACTOR - The individual, partnership, corporation, joint-venture, or other legal entity with whom the OWNER has executed the Agreement.

Day - A calendar day of 24 hours measured from midnight to the next midnight.

Defective Work - Work that is unsatisfactory, faulty, or deficient; or that does not conform to the Contract Documents; or that does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents; or work that has been damaged prior to final payment.

Drawings - The drawings, plans, maps, profiles, diagrams, and other graphic representations which indicate the character, location, nature, extent, and scope of the WORK and which have been prepared by the ENGINEER and are included and/or referred to in the Contract Documents. Shop Drawings are not Drawings as so defined.

Effective Date of the Agreement - The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

ENGINEER - The individual, partnership, corporation, joint-venture, or other legal entity named as such by the OWNER in the Contract Documents. OWNER is acting as its own ENGINEER and the terms are used interchangeably in the Contract Documents.

Field Order - A written order issued by the OWNER which may or may not involve a change in the WORK.

Final Payment - The Final Payment made to CONTRACTOR 30-days after filing the Notice of Completion and pursuant to Section 14.

General Requirements – as identified in the first part of the Technical Specifications.

Greenbook – Standard Specifications for Public Works Construction (SSPWC), latest edition.

Hazardous Waste - The term shall have the meaning provided in Section 4.5 of the General Conditions and Section 1004 of the Solid Waste Disposal Act (42 USC Section 690) as amended from time to time.

Laws and Regulations – Any applicable federal, state or local laws, rules, regulations, ordinances, codes and orders.

Lien - A Stop Notice filed with the OWNER.

Milestone - A principal event specified in the Contract Documents relating to an intermediate completion date of a separately identifiable part of the WORK or a period of time within which the separately identifiable part of the WORK should be performed prior to Substantial Completion of all the WORK.

Notice of Award - The written notice by the OWNER to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions precedent enumerated therein within the time specified, the OWNER will enter into an Agreement.

Notice of Completion - A form signed by the OWNER that the WORK is Complete and fixing the date of Completion. After acceptance of the WORK by the OWNER's governing body, the form is signed by the OWNER and filed with the County Recorder.

Notice to Proceed - The written notice issued by the OWNER to the CONTRACTOR authorizing the CONTRACTOR to proceed with the WORK and establishing the date of commencement of the Contract Times.

OWNER - The public body or authority, corporation, association, firm, or person with whom the CONTRACTOR has entered into the Agreement and for whom the WORK is to be provided.

Partial Utilization - Use by the OWNER of a substantially completed part of the WORK for the purpose for which it is intended prior to Substantial Completion of all the WORK.

Project - The total construction project of which the WORK to be provided under the Contract Documents may be the whole or a part.

Resident Project Representative - The authorized representative of the OWNER who is assigned to the Site or any part of the WORK.

Samples - Physical examples of materials, equipment, or workmanship that are representative of some portion of the WORK and which establish the standards by which such portion of the WORK will be judged.

Shop Drawings - All drawings, diagrams, illustrations, schedules, and other data which are specifically prepared by or for the CONTRACTOR and submitted by the CONTRACTOR to illustrate some portion of WORK and all illustrations, brochures, schedules, performance charts, instructions, and diagrams to illustrate material or equipment for some portion of the WORK.

Site - Lands or other areas designated in the Contract Documents as being furnished by the OWNER for the performance of the WORK, and related storage or access.

Specifications - (Same definition as for Technical Specifications hereinafter).

Stop Notice - A legal remedy for subcontractors and suppliers who contribute to public works, but who are not paid for their work, which may secure payment from construction funds possessed by the OWNER.

Subcontractor - An individual, partnership, corporation, joint-venture, or other legal entity having a direct contract with the CONTRACTOR or with any other Subcontractor for the performance of a part of the WORK at the Site.

Substantial Completion - The date when the WORK can be utilized for the purposes for which it was intended; only minor punch list items of work remain; and, the Notice of Completion is expected to be executed and filed with the County within thirty (30) days.

Supplementary General Conditions - The part of the Contract Documents which make additions, deletions, or revisions to these General Conditions.

Supplier - A manufacturer, fabricator, distributor, material man, or vendor having a direct contract with the CONTRACTOR or with any Subcontractor to furnish materials, equipment, or product to be incorporated in the WORK by the CONTRACTOR or any Subcontractor.

Technical Specifications - The various sections of the Contract Documents which describe the materials and workmanship required to complete the WORK, including the General Requirements, Civil, Architectural, Mechanical and Electrical engineering descriptions, standards of construction and drawings.

Utilities - All pipelines, conduits, ducts, cables, wires, tracks, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities which have been installed underground or above the ground to furnish any of the following services or

materials: water, sewage, sludge, drainage, fluids, electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, traffic control, or other control systems.

WORK - The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. **WORK** is the result of performing or furnishing labor and furnishing and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all as required by the Contract Documents.

SECTION 2 - PRELIMINARY MATTERS

2.1 DELIVERY OF BONDS AND INSURANCE CERTIFICATES

When the CONTRACTOR delivers the signed Agreement to the OWNER, the CONTRACTOR shall also deliver to the OWNER such Bonds and insurance policies and/or certificates as the Contract Documents and the Notice of Award may require.

2.2 COPIES OF DOCUMENTS

The OWNER will furnish to the CONTRACTOR the required number of copies of the Contract Documents specified in the Contract Documents.

2.3 COMMENCEMENT OF CONTRACT TIMES; NOTICE TO PROCEED

The Contract Times will start to run on the commencement/effective date stated in the Notice to Proceed.

2.4 STARTING THE WORK

- A. The CONTRACTOR shall begin to perform the WORK on the commencement date stated in the Notice to Proceed, but no work shall be done at the Site prior to said commencement date.
- B. Before undertaking each part of the WORK, the CONTRACTOR shall review the Contract Documents in accordance with Section 3.3.

2.5 PRECONSTRUCTION CONFERENCE

The CONTRACTOR is required to attend a preconstruction conference. This conference will be attended by the OWNER and others as appropriate in order to discuss the WORK in accordance with the applicable procedures specified in Section in the Contract Documents on Summary of Work.

2.6 FINALIZING INITIAL SUBMITTALS

At least 7 days before submittal of the first Application for Payment a conference attended by the CONTRACTOR and others as appropriate will be held to finalize the initial CONTRACTOR submittals in accordance with the Section in the Contract Documents on Contractor Submittals. As a minimum, the CONTRACTOR's representatives should include its project manager and schedule expert. The CONTRACTOR should plan on this meeting taking no less than 8 hours. If the submittals are not finalized at the end of the meeting, additional meetings will be held so

that the submittals can be finalized prior to the submittal of the first Application for Payment. No Application for Payment will be processed prior to receiving acceptable initial submittals from the CONTRACTOR.

SECTION 3 - INTENT AND USE OF CONTRACT DOCUMENTS

3.1 INTENT

- A. The Contract Documents comprise the entire agreement between the OWNER and the CONTRACTOR concerning the WORK. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the law of the State of California.
- B. It is the intent of the Contract Documents to describe the WORK, functionally complete, to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not called for specifically.
- C. All WORK shall be done in accordance with “Greenbook” Standard Specifications for Public Works Construction, latest edition, except as presented in the drawings and specifications.
- D. When words or phrases which have a well-known technical or construction industry or trade meaning are used to describe work, materials, or equipment such words or phrases shall be interpreted in accordance with that meaning unless a definition has been provided in Section 1 of the General Conditions.

3.2 REFERENCE TO STANDARDS

Reference to standard specifications, manuals, or codes of any technical society, organization, or association, or to the Laws or Regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids, except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code shall be effective to change the duties and responsibilities of the OWNER, the CONTRACTOR, or any of their consultants, agents, or employees, from those set forth in the Contract Documents, nor shall it be effective to assign to OWNER, agents, or employees any duty or authority to direct the performance of the WORK or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.3 REVIEW OF CONTRACT DOCUMENTS

If, during the performance of the WORK, CONTRACTOR discovers any conflict, error, ambiguity or discrepancy within the Contract Documents or between the Contract Documents and any provision of any such Law or Regulation applicable to the performance of the WORK or of any such standard, specification, manual, or code, or of any instruction of any Supplier, CONTRACTOR shall report it to OWNER in writing at once, and CONTRACTOR shall not proceed with the work affected thereby (except in an

emergency as authorized by Section 6.12) until a Clarification, Field Order, or Change Order to the Contract Documents has been issued.

3.4 ORDER OF PRECEDENCE OF CONTRACT DOCUMENTS

A. If there is a conflict between Contract Documents, the document with the most stringent requirements, as determined by the OWNER, shall control. In other cases, the precedent shall be:

1. Permits from other agencies as may be required by law
2. Supplementary General Provisions
3. Drawings
4. General Conditions
5. Technical Specifications
6. Referenced Standard Plans
7. Referenced Standard Specifications

B. With reference to the Drawings the order of precedence is as follows:

1. Figures govern over scaled dimensions
2. Detail drawings govern over general drawings
3. Addenda/Change Order drawings govern over any other drawings
4. Drawings govern over standard drawings

3.5 AMENDING CONTRACT DOCUMENTS

The Contract Documents may be amended to provide for additions, deletions, and revisions in the WORK or to modify the terms and conditions thereof by a Change Order (pursuant to Section 10).

3.6 REUSE OF DOCUMENTS

Neither the CONTRACTOR, nor any Subcontractor or Supplier, nor any other person or organization performing any of the WORK under a contract with the OWNER shall have or acquire any title to or ownership rights in any of the Drawings, Technical Specifications, or other documents used on the WORK, and they shall not reuse any of them on the extensions of the Project or any other project without written consent of OWNER.

SECTION 4 - SITE OF THE WORK

4.1 AVAILABILITY OF LANDS

The OWNER will furnish, as indicated in the Contract Documents, the lands upon which the WORK is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for the use of the CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by the OWNER, unless otherwise provided in the Contract Documents. Nothing contained in the Contract Documents shall be interpreted as giving the CONTRACTOR exclusive occupancy of the lands or rights-of-way provided. The CONTRACTOR shall

provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment; provided, that the CONTRACTOR shall not enter upon nor use any property not under the control of the OWNER until a written temporary construction easement agreement has been executed by the CONTRACTOR and the property owner, and a copy of said easement furnished to the OWNER prior to said use; and, the OWNER will not be liable for any claims or damages resulting from the CONTRACTOR's trespass on or use of any such properties. The CONTRACTOR will be responsible for all costs associated with the use of additional lands. The CONTRACTOR shall provide the OWNER with a signed release from the property owner confirming that the lands have been satisfactorily restored upon completion of the WORK.

4.2 REPORTS OF PHYSICAL CONDITIONS

- A. Subsurface Explorations: Reference is made to the Contract Documents for identification of those reports (if any) of explorations and tests of subsurface conditions at the Site that have been utilized by the OWNER in the preparation of the Contract Documents.
- B. Existing Structures: Reference is made to the Contract Documents for identification of those drawings (if any) of physical conditions in or relating to existing surface and subsurface structures (except underground Utilities referred to in Section 4.3 herein) which are at or contiguous to the Site that have been utilized in the preparation of the Contract Documents.
- C. The OWNER does not make any representation to the completeness of the reports or drawings referred to in Section 4.2 A or B above or the accuracy of any data or information contained therein. The CONTRACTOR may rely upon the accuracy of the technical data contained in such reports and drawings. However, the CONTRACTOR may not rely upon any interpretation of such technical data, including any interpolation or extrapolation thereof, or any non-technical data, interpretations, and opinions contained therein.

4.3 PHYSICAL CONDITIONS - UNDERGROUND UTILITIES

- A. Indicated: The information and data indicated in the Contract Documents with respect to existing underground Utilities at or contiguous to the Site are based on information and data furnished to the OWNER by the owners of such underground Utilities or by others. Unless it is expressly provided in the Contract Documents, the OWNER will not be responsible for the accuracy or completeness of any such information or data, and the CONTRACTOR shall have full responsibility for reviewing and checking all such information and data, for locating all underground Utilities indicated in the Contract Documents, for coordination of the WORK with the owners of such underground Utilities during construction, for the safety and protection thereof and repairing any damage thereto resulting from the WORK, the cost of all of which are deemed to have been included in the Contract Price.
- B. Not Indicated: If an underground Utility is uncovered or revealed at or contiguous to the Site which was not indicated in the Contract Documents and which the CONTRACTOR could not reasonably have been expected to be aware of, or could not

have been located by CONTRACTOR's use of Underground Service Alert (USA), the CONTRACTOR shall identify the owner of such underground Utility and give written notice thereof to that owner and shall notify the OWNER in accordance with the requirements of the Contract Documents.

4.4 DIFFERING SITE CONDITIONS

- A. The CONTRACTOR shall notify the OWNER, in writing, of the following unforeseen conditions, hereinafter called differing Site conditions, promptly upon their discovery (but in no event later than 5 days after their discovery) and before they are disturbed:
 - 1. Subsurface or latent physical conditions at the Site of the WORK differing materially from those indicated, described, or delineated in the Contract Documents, including those reports discussed in Section 4.2, 4.3, and 4.5; and
 - 2. Unknown physical conditions at the Site of the WORK of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents, including those reports and documents discussed in Section 4.2, 4.3, and 4.5.
- B. The OWNER will review the pertinent conditions, determine the necessity of obtaining additional explorations or tests with respect thereto.
- C. If the OWNER concludes that because of newly discovered conditions a change in the Contract Documents is required, a Change Order will be issued as provided in Section 10 to reflect and document the consequences of the difference.
- D. In each such case, an increase or decrease in the Contract Price or an extension or shortening of the Contract Times, or any combination thereof, will be allowable to the extent that they are attributable to any such difference. If the OWNER and the CONTRACTOR are unable to agree as to the amount or length thereof, a claim may be made therefore as provided in Section's 11 and 12.
- E. The CONTRACTOR's failure to give notice of differing Site conditions within 5 days of their discovery and before they are disturbed shall constitute a waiver of all claims in connection therewith, whether direct or consequential in nature.

4.5 HAZARDOUS WASTE

- A. Reference is made to the Contract Documents for identification of those reports and drawings relating to Hazardous Waste, including Asbestos, PCBs, Petroleum and/or Radioactive Material identified at the Site that have been utilized by the OWNER in the preparation of the Contract Documents.
- B. OWNER shall be responsible for any Hazardous Waste uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the WORK and which may present a substantial danger to persons or property exposed thereto in connection with the WORK at the Site. OWNER shall not be responsible for any such material brought to the Site by

CONTRACTOR, Subcontractors, Suppliers, or anyone else for whom CONTRACTOR is responsible.

1. Upon discovery of any Hazardous Waste the CONTRACTOR shall immediately stop all work in any area affected thereby (except in an emergency as required by Section 6.12) and notify OWNER (and thereafter confirm such notice in writing). CONTRACTOR shall not be required to resume any work in any such affected area until after OWNER has obtained any required permits related thereto and delivered to CONTRACTOR special written notice. Such written notice will specify that such condition and any affected area is or has been rendered safe for the resumption of the work or specify any special conditions under which the work may be resumed safely. If OWNER and CONTRACTOR cannot agree as to entitlement to or the amount or extent of adjustment, if any, in Contract Price or Contract Times as a result of such work stoppage or such special conditions under which work is agreed by CONTRACTOR to be resumed, either party may make a claim therefore as provided in Sections 11 and 12.
 2. If, after receipt of such special written notice, CONTRACTOR does not agree to resume such WORK based on a reasonable belief it is unsafe, or does not agree to resume such WORK under special conditions, then OWNER may order such portion of the WORK that is in connection with such hazardous condition or in such affected area to be deleted from the WORK. If OWNER and CONTRACTOR cannot agree as to entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Times as a result of deleting such portion of the WORK then either party may make a claim therefore as provided in Sections 11 and 12. OWNER may have such deleted portion of the WORK performed by OWNER's own forces or others in accordance with Section 7.
- C. The provisions of Sections 4.2, 4.3, and 4.4 are not intended to apply to Hazardous Waste uncovered or revealed at the Site.

4.6 REFERENCE POINTS

- A. The OWNER will provide one bench mark, near or on the Site of the WORK, and will provide two points near or on the Site to establish a base line for use by the CONTRACTOR for alignment control. Unless otherwise specified in the Contract Documents, the CONTRACTOR shall furnish all other lines, grades, and bench marks required for proper execution of the WORK.
- B. The CONTRACTOR shall preserve all bench marks, stakes, and other survey marks, and in case of their removal or destruction by any party, the CONTRACTOR shall be responsible for the accurate replacement of such reference points by personnel qualified under the applicable state codes governing land surveyors.

SECTION 5 - BONDS AND INSURANCE

5.1 BONDS

- A. The CONTRACTOR shall furnish Performance and Payment Bonds, each in the amount set forth in the Contract Documents, as security for the faithful performance and payment of all the CONTRACTOR's obligations under the Contract Documents. These Bonds shall remain in effect at least until two years after the date of Final Payment, except as otherwise provided by Law or Regulation or by the Contract Documents. The CONTRACTOR shall also furnish such other Bonds as are required by the Contract Documents.
- B. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such California admitted sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff, Bureau of Government Financial Operations, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by the following:
1. The original, or a certified copy, of the unrevoked appointment, power of attorney, bylaws or other instrument entitling or authorizing the person who executed the bond to do so;
 2. A certified copy of the certificate of authority of the insurer issued by the Insurance Commissioner;
 3. A certificate from the County Clerk that the certificate of authority of the insurer has not been surrendered, revoked, cancelled, annulled, or suspended or, in the event that it has, that renewed authority has been granted;
 4. Copies of the insurer's most recent annual statement and quarterly statement filed with the Department of Insurance;
 5. Current documents demonstrating to the OWNER's satisfaction that surety's assets exceed its liabilities in an amount equal to or in excess of the amount of the bonds.
- C. If the surety on any Bond furnished by the CONTRACTOR is declared a bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the WORK is located, the CONTRACTOR shall within 7 days thereafter substitute another Bond and surety, which must be acceptable to the OWNER.
- D. All Bonds required by the Contract Documents to be purchased and maintained by CONTRACTOR shall be obtained from surety companies that are duly licensed and admitted in the State of California to issue Bonds for the limits so required. Such surety

companies shall also meet such additional requirements and qualifications as may be provided in the Contract Documents.

- E. CONTRACTOR's liabilities under the Contract Documents shall not be limited in any way to the Bonds required herein.

5.2 INSURANCE

- A. The CONTRACTOR shall purchase and maintain the insurance required under this Section. Such insurance shall include the specific coverages set out herein and be written for not less than the limits of liability and coverages provided in the Contract Documents, or required by Laws or Regulations, whichever are greater. All insurance shall be maintained continuously during the life of the Agreement including through the Warranty / Guarantee period and at all times when the CONTRACTOR may be correcting, removing, or replacing Defective Work in accordance with Section 13.5. The CONTRACTOR's liabilities under the Contract Documents shall not be deemed limited in any way to the insurance coverage required herein. The insurance required herein shall provide that the coverage is primary, and that no other insurance held carried by OWNER will be called to contribute to a loss.
- B. All insurance required by the Contract Documents to be purchased and maintained by the CONTRACTOR shall be obtained from insurance companies that are duly licensed and admitted to issue insurance policies for the limits and coverages so required in the State of California. Such insurance companies shall have a current Best's Rating of at least an "A" (Excellent) general policy holder's rating and a Class VII financial size category and shall also meet such additional requirements and qualifications as may be provided in the Contract Documents.
- C. The CONTRACTOR shall furnish the OWNER, with copies to each additional insured who is indicated in the Contract Documents, with certificates and original endorsements showing the type, amount, class of operations covered, effective dates and dates of expiration of policies. All of the policies of insurance so required to be purchased and maintained (or the certificates or other evidence thereof) shall contain a provision or endorsement that the coverage afforded will not be canceled, reduced in coverage, or renewal refused until at least 30 days prior written notice has been received by the OWNER and additional insureds by certified mail. All such insurance required herein (except for worker's compensation) shall name the OWNER and their consultants and subconsultants and their officers, directors, agents, and employees as "additional insureds" under the policies. The CONTRACTOR shall purchase and maintain the following insurance:
 - 1. Workers' Compensation and Employer's Liability: This insurance shall protect the CONTRACTOR against all claims under applicable workers' compensation laws or federal acts, including claims for injury, disease, or death of employees which, for any reason, may not fall within the provisions of a workers' compensation law. The CONTRACTOR shall require each subcontractor similarly to provide workers' compensation insurance and employer's liability insurance for all of the

latter's employees to be engaged in such work unless such employees are covered by the protection afforded by the CONTRACTOR's workers' compensation insurance. The CONTRACTOR and each Subcontractor shall provide a waiver of subrogation in favor of the OWNER and their additional insureds.

2. Commercial General Liability: This insurance shall be written in comprehensive form and shall be at least as broad as insurance services office commercial general liability coverage (occurrence Form CG 0001), and shall protect the CONTRACTOR and OWNER against all claims arising from injuries to persons or damage to property arising out of any act or omission of the CONTRACTOR or its agents, employees, or subcontractors. The policy shall also include "owner's and contractor's protective liability" endorsement and contractual coverage to insure the contractual liability assumed by the CONTRACTOR under the indemnification provisions in the General Conditions. To the extent that the CONTRACTOR's work, or work under its direction, may require blasting, explosive conditions, or underground operations, the comprehensive or commercial general liability coverage shall specifically include coverage relative to blasting, explosion, collapse, and/or underground hazards.
3. Commercial Automobile Liability: This insurance shall be written in comprehensive form and shall be at least as broad as Insurance Services Office Business Auto Coverage (Form CA 0001), covering Code 1 (any auto), and shall protect the CONTRACTOR and OWNER against all claims for injuries to members of the public and damage to property of others arising from the use of motor vehicles, and shall cover operation on or off the Site of all motor vehicles licensed for highway use, whether they are owned, non-owned, or hired.
4. Subcontractor's Liability Insurance: The CONTRACTOR shall require each of the Subcontractors to procure and to maintain subcontractors liability, property damage insurance and vehicle liability insurance of the type and in the same amounts specified in the Contract Documents for the CONTRACTOR.
5. Builder's Risk: This insurance shall be of the "all risks" type, shall be written in completed value form, and shall protect the CONTRACTOR, Subcontractors, and the OWNER against risks of damage to buildings, structures, and materials and equipment (including any stored off-site and while in transit), CONTRACTORS' equipment, debris removal and including demolition and contingent loss occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for OWNER'S services and expenses required as a result of such insured loss. The amount of such insurance shall be not less than the insurable value of the WORK at completion plus equipment. Builders risk insurance shall provide for losses to be payable to the CONTRACTOR and the OWNER, as their interests may appear. This insurance shall contain a provision that in the event of payment for any loss under the coverage provided, the insurance company shall have no rights of recovery against the CONTRACTOR and the OWNER This insurance shall insure against

all risks of loss (including earthquake, flood and collapse) and, at the option of the OWNER, shall include comprehensive boiler and machinery coverage including coverage for installation and testing.

6. Deductibles and Self-Insured Retentions: Any deductibles or self-insured retentions shall be declared to an approved by the OWNER in advance.

SECTION 6 - CONTRACTORS RESPONSIBILITIES

6.1 SUPERVISION AND SUPERINTENDENCE

- A. The CONTRACTOR shall supervise, inspect, and direct the WORK safely, 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. The CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction and all safety precautions and programs incidental thereto. The CONTRACTOR shall be responsible to see that the completed WORK complies accurately with the Contract Documents.
- B. The CONTRACTOR shall designate in writing and keep on the Site at all times during the performance of the WORK a technically qualified, English-speaking superintendent, who is an employee of the CONTRACTOR and who shall not be replaced without written notice to the OWNER. The superintendent shall be the CONTRACTOR's representative at the Site and shall have authority to act on behalf of the CONTRACTOR. All communications given to the superintendent shall be as binding as if given to the CONTRACTOR.
- C. The CONTRACTOR's superintendent shall be available by phone for emergencies 24 hours per day, 7 days per week. Failure to observe this requirement shall be considered suspension of the WORK by the CONTRACTOR until such time as such superintendent is again present at the Site.
- D. CONTRACTOR shall be responsible for protecting the WORK from any and all acts or occurrences including the weather.

6.2 LABOR, MATERIALS, AND EQUIPMENT

- A. The CONTRACTOR shall provide competent, suitably qualified personnel to survey and lay out the WORK and perform construction as required by the Contract Documents. The CONTRACTOR shall furnish, erect, maintain, and remove the WORK and any required temporary works. The CONTRACTOR shall at all times maintain good discipline and order at the Site. Except in connection with the safety or protection of persons or the WORK or property at the Site or adjacent thereto, and except as otherwise indicated in the Contract Documents, all work at the Site shall be performed during regular working hours, and the CONTRACTOR will not permit overtime work or the performance of work on Saturday, Sunday, or any OWNER or federally observed holiday

without the OWNER's written consent. The CONTRACTOR shall apply for this consent from the OWNER in writing a minimum of 48 hours in advance.

- B. Except as otherwise provided in this Section, the CONTRACTOR shall receive no additional compensation for overtime work (i.e., work in excess of 8 hours in any one calendar day or 40 hours in any one calendar week), even though such overtime work may be required under emergency conditions and may be ordered by the OWNER in writing. Additional compensation will be paid to the CONTRACTOR for overtime work only in the event extra work is ordered by the OWNER and a Change Order specifically authorizes the use of overtime work and then only to such extent as overtime wages are regularly being paid by the CONTRACTOR for overtime work of a similar nature in the same locality.
- C. All increased costs of inspection and testing performed during overtime work by the CONTRACTOR which is allowed for the convenience of the CONTRACTOR shall be borne by the CONTRACTOR. The OWNER has the authority to deduct the cost of all such inspection and testing from any partial payments otherwise due to the CONTRACTOR.
- D. Unless otherwise specified in the Contract Documents, the CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, lubricants, power, light, heat, telephone, water, sanitary facilities, and all other facilities, consumables, and incidentals necessary for the furnishing, performance, testing, start-up, and completion of the WORK.
- E. All materials and equipment incorporated into the WORK shall be of specified quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Specifications shall expressly run to the benefit of the OWNER. If required by the OWNER, the CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the source, kind and quality of materials and equipment. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with the instructions of the applicable Supplier except as otherwise provided in the Contract Documents; but no provisions of any such instructions will be effective to assign to the OWNER, or any of their consultants, agents, or employees, any duty or authority to supervise or direct the furnishing or performance of the WORK or any duty or authority to undertake responsibility contrary to the provisions of Section 9.9 C.

6.3 SCHEDULE

The CONTRACTOR shall comply with the Schedule requirements of the Contract Documents.

6.4 SUBSTITUTES OR "OR EQUAL" ITEMS

The CONTRACTOR shall submit proposed substitutes or "or equal" items in accordance with the provisions on Products, Materials, Equipment, and Substitutions in the Contract Documents.

6.5 RESPONSIBILITY FOR SUBCONTRACTORS, SUPPLIERS AND OTHERS

The CONTRACTOR shall be responsible to the OWNER for the acts and omissions of its Subcontractors, Suppliers, and their employees to the same extent as CONTRACTOR is responsible for the acts and omissions of its own employees. Nothing contained in this Section shall create any contractual relationship between any Subcontractor and the OWNER, nor relieve the CONTRACTOR of any liability or obligation under the Contract Documents. The CONTRACTOR shall include these General Conditions and the Contract Documents as a part of all its subcontract and supply agreements.

6.6 PERMITS

Unless otherwise provided in the Contract Documents, the CONTRACTOR shall obtain and pay for all construction permits and licenses required for the work from the agencies having jurisdiction, including the furnishing of insurance and bonds if required by such agencies. The enforcement of such requirements shall not be made the basis for claims for additional compensation by CONTRACTOR. When necessary, the OWNER will endeavor to assist the CONTRACTOR in obtaining such permits and licenses. The CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the WORK. The CONTRACTOR shall pay all charges of utility owners for inspection or connections to the WORK.

6.7 PATENT FEES AND ROYALTIES

The CONTRACTOR shall pay all license and patent 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 or license 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 the OWNER its use is subject to patent or license rights or copyrights calling for the payment of any fee or royalty to others, the existence of such rights will be disclosed by the OWNER in the Contract Documents. The CONTRACTOR's indemnification obligation for all claims and liabilities arising out of 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 shall be in accordance with Section 6.16 of these General Conditions.

6.8 LAWS AND REGULATIONS

The CONTRACTOR shall observe and comply with all Laws and Regulations which in any manner affect those individuals, entities, employees, agents, subcontractors and suppliers engaged or employed on the WORK, the materials used in the WORK, or the conduct of the WORK. If any discrepancy or inconsistency should be discovered between the Contract Documents and any such Laws or Regulations, the CONTRACTOR shall

report the same in writing to the OWNER. Any particular Law or Regulation specified or referred to in the Contract Documents shall not in any way limit the obligation of the CONTRACTOR to comply with all Laws and Regulations. The CONTRACTOR's indemnification obligations for all claims or liability arising from violation of any such law, ordinance, code, order, or regulation, whether by CONTRACTOR or by its employees, agents, subcontractors or suppliers shall be in accordance with Section 6.16 of these General Conditions.

6.9 TAXES

The CONTRACTOR shall pay all sales, consumer, use, business, and other similar taxes required to be paid by the CONTRACTOR in accordance with the Laws and Regulations which are applicable during the performance of the WORK.

6.10 USE OF PREMISES

The CONTRACTOR shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site, the land and areas identified in and permitted by the Contract Documents, and the other land and areas permitted by Laws and Regulations, rights-of-way, permits, and easements. The CONTRACTOR shall assume full liability and responsibility for any injuries or damage to any such land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, resulting from the performance of the WORK. Should any claim be made against the OWNER by any such owner or occupant or any other third party because of the performance of the WORK, the CONTRACTOR shall promptly attempt to settle with such other party by agreement or otherwise resolve the claim through litigation at the CONTRACTOR's sole expense. The CONTRACTOR's indemnification obligations for all claims and liability, arising directly, indirectly, or consequentially out of any action, legal or equitable, brought by any such owner, occupant or third party against the OWNER, their consultants, subconsultants, and the officers, directors, employees and agents to the extent caused by or based upon the CONTRACTOR's performance of the WORK shall be in accordance with Section 6.16 of these General Conditions.

6.11 SAFETY AND PROTECTION

A. The CONTRACTOR shall be solely responsible for the health and safety of its employees, agents and subcontractors in performing the work. CONTRACTOR shall ensure strict compliance with all Cal/OSHA safety requirements. The CONTRACTOR shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the WORK. The 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 at the Site and other persons and organizations who may be affected thereby including all employees, subcontractors, laborers and suppliers, and their employees;
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, and utilities not designated for removal, relocation, or replacement in the course of the performance of the WORK.
- B. The 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. The CONTRACTOR shall notify owners of adjacent property and utilities when prosecution of the WORK may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property. CONTRACTOR'S duties and responsibilities for safety and for protection of the WORK shall continue until Final Payment.
- C. The CONTRACTOR shall designate a qualified and experienced safety representative for the WORK and at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.
- D. Materials that contain hazardous substances or mixtures may be required on the WORK. A Material Safety Data Sheet shall be made available at the Site by the CONTRACTOR for every hazardous product used.
- E. Material usage shall strictly conform to OSHA safety requirements and all manufacturer's warnings and application instructions listed on the Material Safety Data Sheet and on the product container label.
- F. The CONTRACTOR shall be responsible for the 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.
- G. The CONTRACTOR shall notify the OWNER if it considers a specified product or its intended use to be unsafe. This notification shall be given to the OWNER prior to the product being ordered, or if provided by some other party, prior to the product being incorporated in the WORK.

6.12 EMERGENCIES

In emergencies affecting the safety or protection of persons or the WORK or property at the Site or adjacent thereto, CONTRACTOR, without special instruction or authorization from OWNER, is obligated to immediately act to prevent threatened damage, injury, or loss. CONTRACTOR shall give OWNER prompt written notice if CONTRACTOR believes that any significant changes in the WORK or variations from the Contract Documents have been caused thereby. If OWNER determines that a change in the Contract Documents is required because of the action taken by CONTRACTOR in response to such an emergency, a Change Order will be issued to document the consequences of such action.

6.13 SUBMITTALS

- A. After checking and verifying all field measurements and after complying with applicable procedures specified in the General Conditions, the CONTRACTOR shall submit to the OWNER for review all Shop Drawings in accordance with the accepted schedule of Shop Drawing submittals specified in the Section in the Contract Documents on Contractor Submittals.
- B. The CONTRACTOR shall also submit to the OWNER for review all Samples in accordance with the accepted schedule of Sample submittals specified in the Section in the Contract Documents on Contractor Submittals.
- C. Before submittal of each Shop Drawing or Sample, the CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar data with respect thereto and reviewed or coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the WORK and the Contract Documents. The CONTRACTOR shall provide submittals in accordance with the requirements of the Section in the Contract Documents on Contractor Submittals.

6.14 CONTINUING THE WORK

The CONTRACTOR shall carry on the WORK and adhere to the progress schedule during all disputes or disagreements with the OWNER. No WORK shall be delayed or postponed pending resolution of any disputes or disagreements, except as the CONTRACTOR and the OWNER may otherwise agree in writing.

6.15 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. CONTRACTOR's warranty and guarantee hereunder excludes defects or damage caused by:
 - 1. Abuse, improper modification, or improper maintenance or operation by persons other than CONTRACTOR, Subcontractors, or Suppliers, or any other individual or entity for whom CONTRACTOR is responsible, provided the CONTRACTOR has been previously relieved of responsibility for protection of such equipment by written action of the OWNER;
 - 2. Normal wear and tear under normal usage.
- B. CONTRACTOR's obligation to perform and complete the WORK in accordance with the Contract Documents shall be absolute. None of the following shall 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 OWNER;

2. Payment by OWNER of any progress or final payment;
3. The issuance of a Certificate of Completion by the OWNER or the use or occupancy of the WORK or any part thereof by the OWNER;
4. Any acceptance by OWNER or any failure to do so;
5. Any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by OWNER pursuant to Section 14.7 B.;
6. Any inspection, test, or approval by others; or
7. Any correction of Defective Work by OWNER.

6.16 INDEMNIFICATION

A. To the fullest extent permitted by Laws and Regulations, the CONTRACTOR shall indemnify, defend, and hold harmless the OWNER, its consultants, subconsultants, and the officers, directors, employees, and agents of each and any of them, against and from all action, claims, suits, penalties, obligations, damages and liability, including attorneys and litigation costs, arising under, by reason of, related, or incidental to the Contract Documents or any performance of the WORK, but not from the active negligence or willful misconduct of the OWNER. Such indemnification by the CONTRACTOR shall include, but not be limited to, the following:

1. Liability or claims arising directly or indirectly from the negligence, carelessness or willful misconduct of the CONTRACTOR, its employees, agents, subcontractors or suppliers in the performance of the WORK, or in guarding or maintaining the same, or from any improper materials, implements, or appliances used in its construction, or by or on account of any act or omission of the CONTRACTOR, its employees, or agents;
2. Liability or claims arising, directly or indirectly, from bodily injury, occupational sickness or disease, or death of the CONTRACTOR's, subcontractor's, or supplier's own employees, or agents engaged in the WORK resulting in actions brought by or on behalf of such employees or agents against the OWNER;
3. Liability or claims arising, directly or indirectly, related to the work, from or based on the violation of any Laws or Regulations, by the CONTRACTOR, its employees, agents, subcontractors or suppliers;
4. Liability or claims arising, directly or indirectly, from the improper or unapproved use or manufacture by the CONTRACTOR, or its subcontractors or suppliers, or any of their employees or agents of any copyrighted or uncopyrighted composition, secret process, patented or unpatented invention, or appliance in the performance of this Agreement;

5. Liability or claims arising, directly or indirectly, from the breach of any warranties, whether express or implied, made to the OWNER and/or ENGINEER or any other parties by the CONTRACTOR, or its subcontractors or suppliers, or any of their employees, or agents;
 6. Liability or claims, arising directly or indirectly, from any breach of the obligations assumed in this Agreement by the CONTRACTOR, Subcontractors, Suppliers, or any of their employees or agents;
 7. Liability or claims arising, directly or indirectly, from, relating to, or resulting from a hazardous condition created by the CONTRACTOR, Subcontractors, Suppliers, or any of their employees or agents; and
 8. Liability or claims arising, directly or indirectly, out of any court or administrative action brought against the OWNER, their consultants, subconsultants, and the officers, directors, employees and agents of any of them, to the extent caused by the CONTRACTOR's use of any premises acquired by permits, rights of way, or easements, the Site, or any land or areas contiguous thereto or its performance of the WORK thereon.
- B. The CONTRACTOR shall reimburse the OWNER for all costs and expenses, (including but not limited to fees and expenses of engineers, architects, attorneys, and other professionals and court costs) incurred by said OWNER in enforcing the provisions of this Section 6.16, or related to any indemnification obligation in the Contract Documents.
- C. The indemnification obligation under this Section 6.16 shall not be limited in any way by any limitation on the amount or type of insurance carried by CONTRACTOR or by the amount or type of damages, compensation, or benefits payable by or for the CONTRACTOR or any subcontractor, supplier, agent, employee or other person or entity.

6.17 CONTRACTOR'S DAILY REPORTS

The CONTRACTOR shall complete a daily report indicating location worked, total manpower for each construction trade, major equipment on Site, each subcontractors manpower and equipment, weather conditions, and other related information involved in the performance of the WORK. The daily report shall be completed on forms approved by the OWNER, and shall be submitted to the OWNER at the conclusion of each workday. The daily report shall comment on the daily progress and status of each major component of the WORK. The breakdown of these components will be decided by the OWNER.

6.18 REQUESTS FOR INFORMATION, CLARIFICATIONS AND FIELD ORDERS

- A. Should there appear to the Contractor to be a discrepancy in the Contract Documents, should questions arise as to the meaning or intent of the Contract Documents, or should the OWNERS comments on submittals returned to Contractor appear to Contractor to change the requirements or scope of the Contract Documents, Contractor shall submit a Request for Information ("RFI") to the OWNER. Contractor shall coordinate and schedule its Work to provide the OWNER sufficient time to issue a written reply to the RFI before proceeding with Work affected thereby.
- B. The OWNER shall issue a reply to the RFI within 5 days of receipt of the same. The reply may include written Clarifications as deemed by the OWNER to be necessary, or a Field Order requiring minor changes in the Work. If additional time is needed to issue the reply, the OWNER will, within the 5-day reply period, notify the Contractor of the longer reply period.
- C. Clarifications of the Contract Documents and Field Orders issued by the OWNER shall be binding on Contractor and shall be promptly executed by Contractor. The OWNERS' right to clarify any element of the Contract Documents shall not be construed to entitle Contractor to a modification of the Contract Sum or a change in the Contract Time.

SECTION 7 -- OTHER WORK

7.1 RELATED WORK AT SITE

- A. The OWNER may perform other work related to the Project at the Site by the OWNER's own forces, have other work performed by utility owners, or let other direct contracts for such other work. Within Public Right-of-Way other Agencies may have contracts for their Work at the Site. There shall be no distinction between any other public work at the Site; Contractor is required to cooperate and coordinate with all other Contractors. If such other work to be performed was not noted in the Contract Documents, written notice thereof will be given to the CONTRACTOR prior to starting any such other work.
- B. The CONTRACTOR shall afford each person who is performing the other work with proper and safe access to the Site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and shall properly coordinate the WORK with theirs. The 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. The CONTRACTOR shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of the OWNER and the others whose work will be affected.
- C. If the proper execution or results of any part of the CONTRACTOR's work depends upon such other work by another, the CONTRACTOR shall inspect and report to the OWNER in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for such proper execution and results. The CONTRACTOR's failure to report such delays, defects, or deficiencies will constitute an acceptance of the

other work as fit and proper for integration with the CONTRACTOR's work except for latent or nonapparent defects and deficiencies in the other work.

7.2 COORDINATION

If OWNER contracts with others for the performance of other work at the Site, the CONTRACTOR shall cooperate and coordinate access and work with such other contractors so that each can complete their work to their mutual benefit.

SECTION 8 - OWNER'S RESPONSIBILITIES

8.1 COMMUNICATIONS

All routine and/or daily communications to and from the CONTRACTOR will be directly with OWNER or the OWNER's designated representative. Contract Documents are expected to go directly to the contracting entities.

8.2 PAYMENTS

The OWNER will make payments to the CONTRACTOR as provided in the Contract Documents.

8.3 LANDS, EASEMENTS, AND SURVEYS

The CONTRACTOR shall provide all required surveys.

8.4 REPORTS AND DRAWINGS

The OWNER will identify and make available to the CONTRACTOR copies of reports of physical conditions at the Site and drawings of existing structures identified in Section 4.2.

8.5 CHANGE ORDERS

The OWNER will execute Change Orders as indicated in Sections 10, 11 and 12.

8.6 INSPECTIONS AND TESTS

The OWNER's responsibility for inspections and tests is set forth in Section 13.3.

8.7 SUSPENSION OF WORK

The OWNER's right to stop work or suspend work is set forth in Sections 13.4 and 15.1.

8.8 TERMINATION OF AGREEMENT

The OWNER's right to terminate services of the CONTRACTOR is set forth in Sections 15.2 and 15.3.

8.9 LIMITATION ON OWNER'S RESPONSIBILITIES

The OWNER shall not supervise, direct or have control or authority over, nor be responsible for, CONTRACTOR's means, methods, techniques, sequences, or procedures of construction or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of the WORK or the health and safety of CONTRACTOR's employees,

agents, subcontractors or suppliers. OWNER shall not be responsible for CONTRACTOR's failure to perform or furnish the WORK in accordance with the Contract Documents.

8.10 UNDISCLOSED HAZARDOUS ENVIRONMENTAL CONDITIONS

OWNER's responsibility for an undisclosed hazardous waste condition is set forth in Section 4.5.

SECTION 9 – OWNER’S STATUS DURING CONSTRUCTION

9.1 OWNER'S REPRESENTATIVE

The OWNER shall assign its own representative during the construction period. The duties and responsibilities and the limitations of authority of the OWNER's representative during construction are summarized in the Contract Documents.

9.2 OBSERVATIONS ON THE SITE

The OWNER will make observations on the Site during construction to monitor the progress and quality of the WORK and to determine, in general, if the WORK is proceeding in accordance with the Contract Documents.

9.3 PROJECT REPRESENTATION

The OWNER shall furnish a Project Representative to accomplish obligations identified in this SECTION. The duties, responsibilities, and limitations of authority of any such Project Representative will be as provided in the Contract Documents.

9.4 CLARIFICATIONS

The OWNER will issue with reasonable promptness such written Clarifications of the requirements of the Contract Documents as it determines necessary or as requested by the CONTRACTOR, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents.

9.5 AUTHORIZED VARIATIONS IN WORK

The OWNER may authorize variations in the WORK from the requirements of the Contract Documents. These may be accomplished by a Field Order and will require the CONTRACTOR to perform the WORK involved in a manner that minimizes the impact to the WORK and the Contract Times. If the CONTRACTOR believes that a Field Order justifies an increase in the Contract Price or an extension of the Contract Times, the CONTRACTOR may request consideration for a Change Order in accordance with Sections 10, 11 or 12.

9.6 REJECTING DEFECTIVE WORK

The OWNER will have authority to reject Defective Work and will also have authority to require special inspection or testing of the WORK as provided in Section 13.

9.7 CONTRACTOR SUBMITTALS, CHANGE ORDERS, AND PAYMENTS

- A. In accordance with the procedures set forth in the General Requirements, the OWNER will review all CONTRACTOR submittals.
- B. The OWNER's responsibilities for Change Orders are set forth in Sections 10, 11, and 12.
- C. The OWNER's responsibilities for Applications for Payment are set forth in Section 14.

9.8 DECISIONS ON DISPUTES

The OWNER will be the interpreter of the requirements of the Contract Documents and of the acceptability of the WORK there under. Claims, disputes, and other matters relating to the acceptability of the WORK and interpretation of the requirements of the Contract Documents pertaining to the performance of the WORK will be determined by the OWNER. Any claims in respect to changes in the Contract Price or Contract Times shall be resolved in accordance with the requirements of Sections 10, 11, and 12.

9.9 LIMITATION ON ENGINEER'S RESPONSIBILITIES

- A. Reserved.
- B. Whenever in the Contract Documents the terms "as ordered," "as directed," "as required," "as allowed," "as reviewed," "as approved," or terms of like effect or import are used, or the adjectives "reasonable," "suitable," "acceptable," "proper," or "satisfactory," or adjectives of like effect or import are used to describe a requirement, direction, review, or judgment of the OWNER as to the WORK, it is intended that such requirement, direction, review, or judgment will be solely to evaluate the WORK for compliance with the requirements of the Contract Documents, and conformance with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents, unless there is a specific statement indicating otherwise. The use of any such term or adjective shall not be effective to assign to the OWNER 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 Section 9.9 C.
- C. The OWNER shall not supervise, direct, control, or have authority over or be responsible for the CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of the CONTRACTOR to comply with Laws and Regulations applicable to the performance of the WORK. The OWNER will not be responsible for the CONTRACTOR's failure to perform the WORK in accordance with the Contract Documents. The OWNER will not be responsible for the acts or omissions of the CONTRACTOR nor of any Subcontractor, Supplier, or any other person or entity performing any of the WORK

SECTION 10 -- CHANGES IN THE WORK

10.1 GENERAL

- A. Without invalidating the Agreement and without notice to any surety, the OWNER may at any time or from time to time, order additions, deletions, or revisions in the WORK. Such additions, deletions or revisions will be authorized by a Change Order or Field Order. Upon receipt of any such document, CONTRACTOR shall promptly proceed to implement the additions, deletions, or revisions in the WORK in accordance with the applicable conditions of the Contract Documents.
- B. The CONTRACTOR shall not be entitled to an increase in the Contract Price nor an extension of the Contract Times for any work performed except as provided in a Change Order. A valid Change Order is either by mutual consent or by unilateral directive from the OWNER. The OWNER prefers to issue Change Orders that are mutually agreeable and signed by both parties. Should the parties be unable to agree on the terms, the OWNER has the right to issue a unilateral Change Order which establishes the value and time impacts and the work to be accomplished by the CONTRACTOR. The CONTRACTOR is obligated to comply with a unilateral Change Order. Should a unilateral Change Order be issued, the burden of proof falls solely upon the CONTRACTOR to prove that the value and time included therein is unreasonable.
- C. If notice of any change in the WORK is required to be given to a surety, the giving of any such notice shall be the CONTRACTOR's responsibility. If the change in the WORK affects the Contract Price, the OWNER may require an adjustment to the amount of any applicable Bond and the amount of each applicable Bond shall be adjusted accordingly.

10.2 VARIATIONS IN ESTIMATED QUANTITIES

- A. If the actual quantity of a unit price bid item varies from the estimated quantity identified in the bid by more than 25% either greater or lesser, either party may request consideration for a Change Order to adjust the unit price based upon the increase or decrease in costs due solely to the variation by more than 25%, and applied only to the amount exceeding 25%. If this variation should cause an increase in the time to complete the WORK, the CONTRACTOR shall, within 5 days of the beginning of the delay or the date the CONTRACTOR should have recognized the beginning of the delay, notify the OWNER of the delay and the impacts in sufficient detail to allow a decision to be made as to the justification and extent of the Changed Time resulting from the variation in quantities exceeding the 25% limit.
- B. In the event a part of the WORK is to be entirely eliminated, the Contract Price shall be decreased by the lump sum or unit price for the eliminated WORK. In the event a part of the WORK is to be entirely eliminated and no lump sum or unit price is identified in the Contract Documents to cover such eliminated work, the Contract Price shall be decreased by the value of the eliminated work.

SECTION 11 -- CHANGE OF CONTRACT PRICE

11.1 GENERAL

- A. The Contract Price constitutes the total compensation payable to the CONTRACTOR for performing the WORK. All duties, responsibilities, and obligations assigned to or undertaken by the CONTRACTOR to complete the WORK shall be at its expense without change in the Contract Price.
- B. Any claim by CONTRACTOR for an increase in the Contract Price shall be based on written notice delivered by the CONTRACTOR to the OWNER within 5 days after the start of the event giving rise to the claim and stating the general nature of the claim. A detailed written claim with supporting data shall be delivered by the CONTRACTOR to OWNER within 15 days after the start of such event and shall be accompanied by the CONTRACTOR's written statement that the amount claimed covers all known amounts (direct, indirect, and consequential) to which the CONTRACTOR is entitled as a result of such event. All claims for adjustment in the Contract Price will be evaluated by the OWNER. No claim by CONTRACTOR for an adjustment in the Contract Price will be considered if not submitted in accordance with this Section 11.1 B. If CONTRACTOR's claim is acceptable to OWNER, OWNER will issue an appropriate Change Order.

11.2 COSTS RELATING TO WEATHER

The CONTRACTOR shall have no claims against the OWNER for damages for any injury to work, materials, or equipment, resulting from the action of the weather. If, however, in the opinion of the OWNER, the CONTRACTOR has made all reasonable efforts to protect the materials, equipment, and work, the CONTRACTOR may be granted a reasonable extension of Contract Times to make proper repairs, renewals, and replacements of the work, materials, or equipment.

11.3 CALCULATION OF COST OF EXTRA WORK (BASED ON TIME AND MATERIALS)

- A. General: The term "cost of extra work" means the sum of all costs necessarily incurred and paid by the CONTRACTOR for labor, materials, and equipment in the proper performance of extra work. Except as otherwise may be agreed to in writing by the OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in Section 11.5.
- B. Labor: The costs of labor will be the actual cost for wages prevailing for each craft or type of workers performing the extra work at the time the extra work is done, plus employer payments of payroll taxes, workers compensation insurance, liability insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs required by federal, state or local laws, as well as assessments or benefits required by lawful collective bargaining agreements for those workers. Labor costs for equipment operators and helpers will be paid only when such costs are not included in the invoice

for equipment rental. The labor costs for foremen shall be proportioned to all of their assigned work and only that applicable to extra work shall be paid. Non-direct labor costs including superintendence shall be considered part of the markup set out in Section 11.4.

- C. Materials: The cost of materials reported shall be at invoice or lowest current price at which materials are locally available and delivered to the Site in the quantities involved, plus the cost of freight, delivery and storage, subject to the following:
1. All trade discounts and rebates shall accrue to the OWNER, and the CONTRACTOR shall make provisions so that they may be obtained;
 2. For materials secured by other than a direct purchase and direct billing to the purchaser, the cost shall be deemed to be the price paid to the actual supplier as determined by the OWNER. Except for actual costs incurred in the handling of such materials, markup shall not be allowed;
 3. Payment for materials from sources owned wholly or in part by the purchaser shall not exceed the price paid by the purchaser for similar materials from said sources on extra work items or the current wholesale price for such materials delivered to the Site, whichever price is lower; and
 4. If in the opinion of the OWNER the cost of material is excessive, or the CONTRACTOR does not furnish satisfactory evidence of the cost of such material, then the cost shall be deemed to be the lowest current wholesale price for the quantity concerned delivered to the Site less trade discount. The OWNER reserves the right to furnish materials for the extra work and no claim will be allowed by the CONTRACTOR for costs and profit on such materials.
- D. Equipment: The CONTRACTOR will be paid for the use of equipment for extra work at the rental rate listed for such equipment specified in the Contract Documents. Such rental rate will be used to compute payments for equipment whether the equipment is under the CONTRACTOR's control through direct ownership, leasing, renting, or another method of acquisition. The rental rate to be applied for use of each item of equipment will be the rate resulting in the least total cost to the OWNER for the total period of use. If it is deemed necessary by the CONTRACTOR to use equipment not listed in the publication specified in the Contract Documents, an equitable rental rate for the equipment will be established by the OWNER. The CONTRACTOR may furnish cost data which might assist the OWNER in the establishment of the rental rate. Payment for equipment shall be subject to the following:
1. All equipment shall, in the opinion of the OWNER, be in good working condition and suitable for the purpose for which the equipment is to be used;
 2. Before construction equipment is used on the extra work, the CONTRACTOR shall plainly stencil or stamp an identifying number thereon at a conspicuous

location, and shall furnish to the OWNER, in duplicate, a description of the equipment and its identifying number;

3. Unless otherwise specified, manufacturers' ratings and manufacturer approved modifications shall be used to classify equipment for the determination of applicable rental rates. Equipment which has no direct power unit shall be powered by a unit of at least the minimum rating recommended by the manufacturer; and
4. Individual pieces of equipment or tools having a replacement value of \$500 or less, whether or not consumed by use, will be considered to be small tools and no payment will be made therefore.

E. Equipment Rental Time: The rental time to be paid for equipment on the Site will be the time the equipment is in productive operation on the extra work being performed and, in addition, will include the time required to move the equipment to the location of the extra work and return it to the original location or to another location requiring no more time than that required to return it to its original location; except, that moving time will not be paid if the equipment is used on other than the extra work, even though located at the Site of the extra work. Loading and transporting costs will be allowed, in lieu of moving time, when the equipment is moved by means other than its own power, except that no payment will be made for loading and transporting costs when the equipment is used at the Site of the extra work on other than the extra work. Rental time will not be allowed while equipment is inoperative due to breakdowns. The rental time of equipment on the work Site will be computed subject to the following:

1. When hourly rates are listed, any part of an hour less than 30 minutes of operation will be considered to be half-hour of operation, and any part of an hour in excess of 30 minutes will be considered one hour of operation;
2. When daily rates are listed, any part of a day less than 4 hours operation will be considered to be half-day of operation. When owner-operated equipment is used to perform extra work to be paid for on a time and materials basis, the CONTRACTOR will be paid for the equipment and operator, as set forth in Sections 3, 4, and 5, following;
3. Payment for the equipment will be made in accordance with the provisions in Section 11.3 D., herein;
4. Payment for the cost of labor and subsistence or travel allowance will be made at the rates paid by the CONTRACTOR to other workers operating similar equipment already on the Site, or in the absence of such labor, established by collective bargaining agreements for the type of workmen and location of the extra work, whether or not the operator is actually covered by such an agreement. A labor surcharge will be added to the cost of labor described herein in accordance with the provisions of Section 11.3 B., herein, which surcharge shall

constitute full compensation for payments imposed by state and federal laws and all other payments made to or on behalf of workers other than actual wages; and

5. To the direct cost of equipment rental and labor, computed as provided herein, will be added the allowances for equipment rental and labor as provided in Section 11.4, herein.
- F. Special Services: Special work or services for extra work are defined as that work characterized by extraordinary complexity, sophistication, innovation, or a combination of the foregoing attributes which are unique to the construction industry. The OWNER will make estimates for payment for special services and may consider the following:
1. When the OWNER and the CONTRACTOR, determine that a special service or work is required which cannot be performed by the forces of the CONTRACTOR or those of any of its Subcontractors, the special service or work may be performed by an entity especially skilled in the work to be performed. After validation of invoices and determination of market values by the OWNER, invoices for special services or work based upon the current fair market value thereof may be accepted without complete itemization of labor, material, and equipment rental costs;
 2. When the CONTRACTOR is required to perform work necessitating special fabrication or machining process in a fabrication or a machine shop facility away from the Site, the charges for that portion of the work performed at the off-site facility may, by agreement, be accepted as a special service and accordingly, the invoices for the work may be accepted without detailed itemization; and
 3. All invoices for special services will be adjusted by deducting all trade discounts. In lieu of the allowances for overhead and profit specified in Section 11.4, herein, an allowance of 15 percent will be added to invoices for special services.
- G. Sureties: All work performed hereunder shall be subject to all of the provisions of the Contract Documents and the CONTRACTOR's sureties shall be bound with reference thereto as under the original Agreement. Copies of all amendments to Bonds or supplemental Bonds shall be submitted to the OWNER for review prior to the performance of any work hereunder.

11.4 CONTRACTOR'S OVERHEAD AND PROFIT

- A. Extra work ordered on the basis of time and materials will be paid for at the actual necessary cost as determined by the OWNER, plus allowances for overhead and profit. The allowance for overhead and profit will include compensation for superintendence, taxes, field office expense, extended overhead, and home office overhead. The allowance for overhead and profit will be made in accordance with the following schedule:

Overhead and Profit Allowance

Labor 20 percent

Materials 15 percent
Equipment..... 15 percent

- B. It is understood that labor, materials, and equipment for extra work may be furnished by the CONTRACTOR or by the Subcontractor on behalf of the CONTRACTOR. When all or any part of the extra work is performed by a Subcontractor, the allowance specified herein will be applied to the labor, materials, and equipment costs of the Subcontractor, to which the CONTRACTOR may add 5 percent of the Subcontractors total cost for the extra work. Regardless of the number of hierarchical tiers of Subcontractors, the 5 percent increase above the Subcontractor's total cost which includes the allowances for overhead and profit specified herein may be applied one time only.

11.5 EXCLUDED COSTS OF EXTRA WORK

- A. The term "cost of extra work" shall not include any of the following:

1. Payroll costs and other compensation of CONTRACTOR's officers, executives, proprietors, partners, principals, general 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 a branch office for general administration of the WORK;
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. Cost of premiums for all Bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same;
5. Costs due to the acts, omissions, willful misconduct or 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; and
6. Other overhead or general expense costs of any kind and the cost of any item not specifically and expressly included in Section 11.4.

11.6 CONTRACTOR'S EXTRA WORK REPORT

In order to be paid for extra work, the CONTRACTOR must submit a daily extra work report on the form furnished by the OWNER. The form must be completely filled out consistent with the provisions of Sections 11.3 through 11.5 and signed by the CONTRACTOR and OWNER at the end of each workday. Failure to complete the form

and obtain appropriate signatures by the next working day after the extra work of the previous day was completed will result in CONTRACTOR's costs for extra work not being considered by the OWNER.

SECTION 12 -- CHANGE OF CONTRACT TIMES

12.1 GENERAL

- A. The Contract Times may only be changed by a Change Order. Any claim for an extension of the Contract Times shall be based on written notice delivered by the CONTRACTOR to the OWNER within 5 days after the start of the event giving rise to the claim and stating the general nature of the claim. A detailed written claim with supporting data shall be delivered to the OWNER within 15 days after the start of the event giving rise to the claim and shall be accompanied by the CONTRACTOR's written statement that the extension claimed is the entire extension to which the CONTRACTOR is entitled as a result of said event. All claims for extension in the Contract Times will be evaluated by the OWNER. No claim for an extension in the Contract Times will be considered if not submitted in accordance with this Section 12.1 A. If CONTRACTOR's claim for an extension is acceptable to OWNER, OWNER will issue an appropriate Change Order. An increase in Contract Times does not mean that the CONTRACTOR is entitled to an increase in Contract Price.
- B. All time limits stated in the Contract Documents are of the essence of the Agreement.
- C. When CONTRACTOR is prevented from completing any part of the WORK within the Contract Times (or Milestones) due to delay beyond the control of CONTRACTOR, the Contract Times (or Milestones) will be extended in an amount equal to the time lost on the critical path of the WORK due to such delay, if a claim is made therefore as provided in Section 12.1.A. Delays beyond the control of CONTRACTOR shall include, but not be limited to, acts or negligence of the OWNER, fires, floods, epidemics, or acts of God. Delays attributable to any Subcontractor or Supplier are not included and shall be deemed to be delays within the control of the CONTRACTOR.
- D. In no event will OWNER be liable to CONTRACTOR, any subcontractor, supplier, laborer or any other person or entity, or to any surety, or employee or agent of any of them, for any increase in the Contract Price or other damages arising out or resulting from the following:
 - 1. Delays caused by or within the control of CONTRACTOR or its laborers, subcontractors or suppliers; or
 - 2. Delays beyond the control of both OWNER and CONTRACTOR including, but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God, or acts or neglect by those performing other work as contemplated by Section 7.

12.2 EXTENSIONS OF CONTRACT TIMES FOR DELAY DUE TO WEATHER

Contract Times may be extended by the OWNER because of delays in the completion of the WORK due to unusually severe and extreme weather, provided that the CONTRACTOR shall, within 5 days of the beginning of any such delay, notify the OWNER in writing of the cause of delay and request an extension of Contract Times. The OWNER will ascertain the facts and the extent of the delay, and may extend the Contract Times. However, OWNER will not be liable to CONTRACTOR, any subcontractor, supplier, laborer and any other person or entity, or to any surety, or any employee or agent of any of them for any increase in contract price or other damages arising from such contract time extension.

SECTION 13 -- INSPECTIONS AND TESTS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

13.1 NOTICE OF DEFECTIVE WORK

Prompt notice of Defective Work known to the OWNER will be given to the CONTRACTOR. All Defective Work, whether or not in place, may be rejected, corrected, or accepted as provided in this Section 13. Defective Work may be rejected even if approved by prior inspection.

13.2 ACCESS TO WORK

OWNER, their consultants, subconsultants, other representatives and personnel of OWNER, independent testing laboratories, and other governmental agencies shall have access to the WORK at reasonable times for their observation, inspecting, and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR's Site safety procedures and programs so that they may comply therewith as applicable.

13.3 INSPECTIONS AND TESTS

- A. The CONTRACTOR shall employ and pay for an experienced licensed Land Surveyor or Civil Engineer to establish and verify the elevation of all elements and to layout all detailed dimensions and elevations from reference points, using recognized engineering survey methods and documentation techniques.

Trench backfill (if required) shall be tested by CONTRACTOR at its expense at the time of placement to determine moisture content and relative compaction. At least one field density test shall be taken at each location and at vertical intervals of 1 – 2 feet. Field density tests shall be performed in accordance with American Society for Testing and Materials (ASTM) D2922 and D 3017 by a geotechnical engineer or qualified experienced technician.

Any field density results that are less than the required relative compaction shall be reworked, moisture conditioned and re-compacted as necessary under observation of an approved inspector. Alternatively, the substandard material can be removed, moisture conditioned and replaced as properly compacted fill.

- B. The CONTRACTOR shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except as otherwise provided in the Contract Documents.
- C. If Laws and Regulations of any public body having jurisdiction require any WORK (or any part thereof) 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 the OWNER the required certificates of inspection or approval.
- D. The CONTRACTOR shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for the OWNER's acceptance of materials or equipment to be incorporated in the WORK or acceptance of materials, mix designs, or equipment submitted for approval prior to the CONTRACTOR's purchase thereof for incorporation in the WORK. Such inspections, tests, or approvals shall be performed by entities acceptable to the OWNER.
- E. The OWNER will make, or have made, such inspections and tests as the OWNER deems necessary to see that the WORK is being accomplished in accordance with the requirements of the Contract Documents. Unless otherwise specified in the Contract Documents, the cost of such inspection and testing will be borne by the OWNER. In the event such inspections or tests reveal non-compliance with the requirements of the Contract Documents, the CONTRACTOR shall bear the cost of corrective measures deemed necessary by the OWNER, as well as the cost of subsequent re-inspection and retesting. Neither observations by the OWNER nor inspections, tests, or approvals by others shall relieve the CONTRACTOR from the CONTRACTOR's obligation to perform the WORK in accordance with the Contract Documents.
- F. If any WORK (including the work of others) that is to be inspected, tested, or approved is covered without written concurrence of the OWNER, it must, if requested by the OWNER, be uncovered for observation. Such uncovering shall be at the CONTRACTOR's expense unless the CONTRACTOR has given the OWNER not less than 48 business hours notice of the CONTRACTOR's intention to perform such test or to cover the same and the OWNER has not acted with reasonable promptness in response to such notice.
- G. If any WORK is covered contrary to the request of the OWNER, it must, if requested by the OWNER, be uncovered for the OWNER's observation and recovered at the CONTRACTOR's expense.
- H. If the OWNER considers it necessary or advisable that covered WORK be observed by the OWNER or inspected or tested by others, the CONTRACTOR, at the OWNER request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as the OWNER may require, that portion of the WORK in question, furnishing all necessary labor, material, and equipment. If it is found that such work is Defective Work, the CONTRACTOR shall bear all direct, indirect, and consequential

costs and damages of such uncovering, exposure, observation, inspection, and testing and of satisfactory reconstruction, including but not limited to, fees and charges of engineers, architects, attorneys, and other professionals. However, if such work is not found to be Defective Work, the CONTRACTOR will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, the CONTRACTOR may make a claim therefore as provided in Sections 11 and 12.

13.4 OWNER MAY STOP THE WORK

If Defective Work is identified, the OWNER may order the CONTRACTOR to stop performance of the WORK, or any portion thereof, until the Defective Work is corrected. OWNER's right to stop the WORK shall not give rise to any duty on the part of the OWNER to exercise this right for the benefit of the CONTRACTOR or any other party.

13.5 CORRECTION OR REMOVAL OF DEFECTIVE WORK

If required by the OWNER, the CONTRACTOR shall promptly either correct all Defective Work, whether or not fabricated, installed, or completed, or, if the work has been rejected by the OWNER, remove it from the Site and replace it with non-defective WORK. The CONTRACTOR shall bear all direct and indirect costs and damages related to such correction or removal, including but not limited to fees and expenses of engineers, architects, attorneys, and other professionals.

13.6 ACCEPTANCE OF DEFECTIVE WORK

Instead of requiring correction or removal and replacement of Defective Work, the OWNER may accept such Defective Work. The CONTRACTOR shall bear all direct and indirect costs attributable to the OWNER's evaluation and acceptance of such Defective Work. If any such acceptance occurs prior to final payment, a Change Order shall be issued incorporating the necessary revisions in the Contract Documents with respect to the WORK, and the OWNER shall be entitled to an appropriate decrease in the Contract Price.

13.7 OWNER MAY CORRECT DEFECTIVE WORK

- A. If the CONTRACTOR fails within a reasonable time after written notice from the OWNER to correct Defective Work, or to remove and replace Defective Work as required by the OWNER in accordance with Section 13.5., or if the CONTRACTOR fails to perform the WORK in accordance with the Contract Documents, or if the CONTRACTOR fails to comply with any other provision of the Contract Documents, the OWNER may, after seven days written notice to the CONTRACTOR, correct and remedy any Defective Work.
- B. In correcting such Defective Work, the OWNER may exclude the CONTRACTOR from all or part of the Site, take possession of all or part of the WORK, and suspend the CONTRACTOR's services related thereto and incorporate in the WORK all materials and equipment for which the OWNER has paid the CONTRACTOR whether stored at the Site or elsewhere. The CONTRACTOR shall provide the OWNER and OWNER's

representatives access to the Site and to all necessary materials and equipment to enable OWNER to exercise the rights and remedies under this Section.

- C. All direct and indirect costs and damages incurred by the OWNER in exercising the rights and remedies under this Section will be charged against the CONTRACTOR and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the WORK, and the OWNER shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, the OWNER may issue a unilateral change order. Such a change order 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 and all direct, indirect, and consequential damages associated therewith.
- D. The CONTRACTOR shall not be allowed an extension of Contract Times (or Milestones) because of any delay in the performance of the WORK attributable to the exercise by OWNER of OWNER's rights and remedies under Section 13.

13.8 WARRANTY PERIOD

- A. The warranty period for the correction of Defective Work shall be the longer of:
 - 1. One year after the date of final payment;
 - 2. Such time as may be prescribed by Laws and Regulations;
 - 3. Such time as specified by the terms of any applicable special guarantee required by the Contract Documents; or
 - 4. Such time as specified by any specific provision of the Contract Documents.
- B. If, during the warranty period as defined in Section 13.8A above, any work is found to be Defective Work, the OWNER shall have the same remedies as set forth in Sections 13.5, 13.6, and 13.7 above.
- C. Where Defective Work (and damage to other work resulting there from) has been corrected, removed, or replaced under this Section 13.8, the warranty period hereunder with respect to such work is extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed, if the correction occurs in the second year of the original warranty period.

SECTION 14 -- PAYMENTS TO CONTRACTOR AND COMPLETION

14.1 SCHEDULE OF VALUES

The schedule of values established as provided in the General Requirements shall serve as the basis for progress payments and shall be incorporated into a form of Application for Payment acceptable to the OWNER.

14.2 UNIT PRICE BID SCHEDULE

Progress payments on account of unit price work will be based on the number of units completed.

14.3 APPLICATION FOR PROGRESS PAYMENT

- A. Unless otherwise prescribed by law, once each month, the CONTRACTOR shall submit to the OWNER for review, the Application for Payment filled out and signed by the CONTRACTOR covering the WORK completed as of the date of the Application for Payment and accompanied by such supporting documentation as is required by the Contract Documents.
- B. The Application for Payment shall identify, as a subtotal, the amount of the CONTRACTOR total earnings to date; plus the value of materials stored at the Site which have not yet been incorporated in the WORK; and less a deductive adjustment for materials installed which were not previously incorporated in the WORK, but for which payment was allowed under the provisions for payment for materials stored at the Site.
- C. The net payment due the CONTRACTOR shall be the above-mentioned subtotal from which shall be deducted the retention specified in the Contract Documents, any obligations to the OWNER, and the total amount of all previous payments made to the CONTRACTOR.
- D. The payment for materials stored at the Site shall not exceed 80 percent of the value of such materials as set forth in the Contract Documents. Said amount shall be based upon the value of all acceptable materials and equipment not incorporated in the WORK but delivered and suitably stored at the Site or at another location agreed to in writing; provided, each such individual item has a value of more than \$5,000 and will become a permanent part of the WORK. The Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that the CONTRACTOR 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 and other arrangements to protect the OWNER's interest therein, all of which will be satisfactory to the OWNER.

14.4 CONTRACTOR'S WARRANTY OF TITLE

The CONTRACTOR warrants and guarantees that title to all WORK, materials, and equipment covered by an Application for Payment, whether incorporated in the WORK or not, shall pass to the OWNER no later than the time of payment, free and clear of all Liens.

14.5 REVIEW OF APPLICATIONS FOR PROGRESS PAYMENT

- A. The OWNER will, within 30 days after receipt of each Application for Payment, approve payment or return the application to the CONTRACTOR indicating in writing the OWNER's reasons for refusing to pay. In the latter case, the CONTRACTOR may make the necessary corrections and resubmit the application.

- B. The OWNER, in its discretion, may refuse payment of the whole or any part of any application for payment because:
1. The work is Defective Work or the completed WORK has been damaged requiring correction or replacement.
 2. The Contract Price has been reduced by written amendment or Change Order.
 3. The OWNER has corrected Defective Work or completed WORK in accordance with Section 13.7.
 4. OWNER has actual knowledge of the occurrence of any of the events enumerated in Sections 15.1 through 15.4 inclusive.
- C. The OWNER may refuse to make payment of any amount submitted by CONTRACTOR:
1. Claims have been made against OWNER related to CONTRACTOR's performance or furnishing of the WORK.
 2. Lien(s) or stop notice(s) 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 Lien(s) or stop notice(s).
 3. There are other items entitling OWNER to a off-set against the amount(s) recommended; or
 4. The occurrence of any of the events enumerated in Sections 14.5B through 14.5C and 15.1 through 15.4 inclusive.
 5. (reserved)
- D. The OWNER must give the CONTRACTOR prompt written notice stating the reasons for such action, and promptly pay the CONTRACTOR the amount so withheld, or any adjustment thereto agreed to by OWNER and CONTRACTOR, when CONTRACTOR corrects to OWNER's satisfaction the reasons for such action.

14.6 SUBSTANTIAL COMPLETION

When the CONTRACTOR considers the WORK ready for its intended use, the CONTRACTOR shall notify the OWNER in writing and request that the WORK be declared substantially complete. The CONTRACTOR shall attach to this request a list of all work items that remain to be completed and a request that the OWNER prepare a Notice of Substantial Completion. Within a reasonable time thereafter, the OWNER and the CONTRACTOR shall make an inspection of the WORK to determine the status of completion. If the OWNER does not consider the WORK substantially complete, the OWNER will notify the CONTRACTOR in writing giving the reasons therefore. If the

OWNER considers the WORK substantially complete, the OWNER will execute the Notice of Substantial Completion, which shall fix the date of Substantial Completion.

14.7 PARTIAL UTILIZATION

- A. The OWNER shall have the right to utilize or place into service any item of equipment or other useable portion of the WORK prior to completion of the WORK. Whenever the OWNER plans to exercise said right, the CONTRACTOR will be notified in writing by the OWNER, identifying the specific portion or portions of the WORK to be so utilized or otherwise placed into service.
- B. It shall be understood by the CONTRACTOR that until such written notification is issued, all responsibility for care and maintenance of all of the WORK shall be borne by the CONTRACTOR. Upon issuance of said written notice of Partial Utilization, the OWNER will accept responsibility for the protection and maintenance of all such items or portions of the WORK described in the written notice.
- C. The CONTRACTOR shall retain full responsibility for satisfactory completion of the WORK, regardless of whether a portion thereof has been partially utilized by the OWNER, and the CONTRACTOR's two year warranty period shall commence only after the date of Final Payment for the WORK.

14.8 FINAL APPLICATION FOR PAYMENT

After the Notice of Substantial Completion has been issued, and after CONTRACTOR has completed all of the remaining work items referred to in Sections 14.6 and 14.7.C and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, marked-up record documents (as provided in the General Requirements), and other documents, all as required by the Contract Documents, and after the OWNER has indicated that the WORK is acceptable, the CONTRACTOR may make application for Final Payment following the procedure and limitations for progress payments at Section 14.5, and subject to 14.9.B. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents, together with complete and legally effective releases or waivers (satisfactory to the OWNER) of all Stop Notices arising out of or filed in connection with the WORK.

14.9 FINAL PAYMENT AND ACCEPTANCE

- A. If, on the basis of the OWNER 's observation of the WORK during construction and final inspection, and the OWNER 's review of the final Application for Payment and accompanying documentation, all as required by the Contract Documents, the OWNER is satisfied that the WORK has been completed and the CONTRACTOR's other obligations under the Contract Documents have been fulfilled, the OWNER will, within make payment according to Section 14.9.B.
- B. Thirty-five (35) days after filing the Notice of Completion for the WORK, the OWNER will make final payment to the CONTRACTOR of the amount remaining after deducting all prior payments and all amounts to be kept or retained by OWNER pursuant to the Contract Documents, including the following:

1. Liquidated damages, as applicable;
 2. Amounts withheld by OWNER under Section 14.5 B. and C. which have not been released; and
 3. One hundred fifty percent (150%) of the value of outstanding items of correction work or punch list items yet uncompleted or uncorrected, as applicable. All such work shall be completed or corrected to the satisfaction of the OWNER within the time stated in the Notice of Completion or other document issued by OWNER; otherwise the CONTRACTOR does hereby waive any and all claims to all monies withheld by the OWNER to cover the value of all such uncompleted or uncorrected items.
- C. As a condition of final payment, the CONTRACTOR shall be required to execute a release on the form provided by OWNER, releasing the OWNER from any and all claims of liability for payment on the Project except for such amounts as may be specifically described and excluded from the release.

14.10 RELEASE OF RETAINAGE AND OTHER DEDUCTIONS

- A. Upon satisfaction of conditions leading to the reduction in the Final Payment under Section 14.9 above, OWNER shall release funds as appropriate. It is contemplated that such a release will be a single event culminating in complete closure of the Contract.

SECTION 15 -- SUSPENSION OF WORK AND TERMINATION

15.1 SUSPENSION OF WORK BY OWNER

The OWNER may, at any time and without cause, suspend the WORK or any portion thereof for a period of not more than 90 days by notice in writing to the CONTRACTOR. The CONTRACTOR shall resume the WORK on receipt of a notice of resumption of WORK. The CONTRACTOR will be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to any suspension if the CONTRACTOR makes an approved claim therefore in compliance with Sections 11 and 12.

15.2 TERMINATION OF AGREEMENT BY OWNER FOR DEFAULT

- A. In the event of default by the CONTRACTOR, the OWNER may give seven days written notice to the CONTRACTOR of OWNER's intent to terminate the Agreement and provide the CONTRACTOR an opportunity to remedy the conditions constituting the default within a specified period of time. It will be considered a default by the CONTRACTOR whenever CONTRACTOR shall:
1. Declare bankruptcy, become insolvent, or assign its assets for the benefit of its creditors;
 2. Disregard or violate, the Laws or Regulations;

3. Fail to provide materials or workmanship in compliance with the requirements of the Contract Documents;
 4. Disregard, breach or violate the provisions of the Contract Documents or OWNER's instructions;
 5. Fail to prosecute the WORK according to the approved progress schedule, milestones or Contract Times;
 6. Fail to provide a qualified superintendent, competent workmen, or materials or equipment in compliance with the requirements of the Contract Documents; or
 7. Disregard the authority of the OWNER.
- B. If the CONTRACTOR fails to remedy the conditions constituting default within the above-referenced seven (7) days, the OWNER may then issue the notice of termination.
- C. In the event the Agreement is terminated, the OWNER will file a Claim against the Surety and may take possession of the WORK and may complete the WORK by whatever method or means the OWNER may select. The cost of completing the WORK will be deducted from the balance which would have been due the CONTRACTOR had the Agreement not been terminated and the WORK completed in accordance with the Contract Documents. If such cost exceeds the balance which would have been due, the CONTRACTOR and Surety shall pay the excess amount to the OWNER.
- D. If, after termination, it is determined by a final decision that the CONTRACTOR was not in default, the rights and obligations of the parties shall be the same as if the termination had been issued for convenience.

15.3 TERMINATION OF AGREEMENT BY OWNER FOR CONVENIENCE

- A. Upon seven days written notice to the CONTRACTOR, the OWNER may, without cause and without prejudice to any other right or remedy of the OWNER, elect to terminate the Agreement. OWNER may also terminate this Agreement for environmental or other considerations as permitted by Section 7105(d) of the Public Contract Code. In such case, the CONTRACTOR shall be paid (without duplication of any items):
1. For acceptable WORK performed and completed in accordance with the Contract Documents, prior to the effective date of termination, including reasonable sums for overhead and profit (as defined in Sections 11.4 and 11.5) for such WORK; or
 2. For costs incurred prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract

Documents for partially completed WORK, plus reasonable sums for overhead and profit (as defined in Sections 11.4 and 11.5).

- B. CONTRACTOR shall not be paid for loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination. OWNER shall not have any further responsibility or liability to CONTRACTOR, any subcontractors, suppliers or laborers for any other costs or damage allegedly arising from such termination.

15.4 TERMINATION OF AGREEMENT BY CONTRACTOR

- A. The CONTRACTOR may terminate the Agreement upon 14 days written notice to the OWNER, whenever:
 - 1. The WORK has been suspended under the provisions of Section 15.1, herein, for more than ninety (90) consecutive days through no fault, act, omission, willful misconduct or negligence of the CONTRACTOR, and notice to resume work or to terminate the Agreement has not been received from the OWNER within this time period; or
 - 2. The OWNER should fail to pay the CONTRACTOR any undisputed monies due it in accordance with the terms of the Contract Documents and within 60 days after presentation to, and approval by, the OWNER of the CONTRACTOR's Application for Payment, unless within said 14-day period the OWNER shall have remedied the condition upon which the payment delay was based or unless OWNER does not have the funds, but identifies when funds are anticipated to be available.
- B. In the event of such termination, the CONTRACTOR shall have no claims against the OWNER except for those claims specifically enumerated in Section 15.3, herein.

SECTION 16 - MISCELLANEOUS

16.1 GIVING NOTICE

Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the entity or to an officer of the corporation or public agency for whom it is intended, or if delivered at or sent by facsimile, or certified mail, postage prepaid, to the last business address known to the giver of the notice.

16.2 TITLE TO MATERIALS FOUND ON THE WORK

The CONTRACTOR shall have exclusive responsibility for removal and disposal of all soils, stone, sand, gravel, and other materials developed and obtained from excavations and other operations connected with, or related to, the WORK and not incorporated into the WORK. The CONTRACTOR will use any such materials which meet the requirements of the Contract Documents. Such excess materials may be left on-site, with

OWNER's written approval, or shall otherwise be disposed of properly by and at the expense of the CONTRACTOR.

16.3 RIGHT TO AUDIT

If the CONTRACTOR submits a claim to the OWNER for additional compensation, the OWNER shall have the right, as a condition to considering the claim, and as a basis for evaluation of the claim, to audit the CONTRACTOR's books. This right shall include the right to examine books, records, documents, and other evidence and accounting procedures and practices, sufficient to discover and verify all direct and indirect costs of whatever nature claimed to have been incurred or anticipated to be incurred and for which the claim has been submitted. The right to audit shall include the right to inspect the CONTRACTOR's plans, or such parts thereof, as may be or have been engaged in the performance of the WORK. The CONTRACTOR further agrees that the right to audit encompasses all subcontracts and is binding upon Subcontractors and suppliers. The rights to examine and inspect herein provided for shall be exercisable through such representatives as the OWNER deems desirable during the CONTRACTOR's normal business hours at the office of the CONTRACTOR. The CONTRACTOR shall make available to the OWNER for auditing, all relevant accounting records and documents, and other financial data, and upon request, shall submit true copies of requested records to the OWNER.

16.4 SURVIVAL OF OBLIGATIONS

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

16.5 CONTROLLING LAW

This Agreement is to be governed by the law of the State of California.

16.6 SEVERABILITY

If any term or provision of the Contract Documents is declared invalid or unenforceable by any court of lawful jurisdiction, the remaining terms and provisions of the Contract Documents shall not be affected thereby and shall remain in full force and effect.

16.7 WAIVER

The waiver by the OWNER of any breach or violation of any term, covenant or condition of the Contract Documents or of any Laws and Regulations shall not be deemed to be a waiver of any other term, covenant, condition, Laws and Regulations or of any subsequent breach or violation of the same. The subsequent payment of any monies by the OWNER which may become due hereunder shall not be deemed to be a waiver of any preceding breach or violation by CONTRACTOR or any term, covenant, condition of the Contract Documents or of any laws or regulations.

16.8 STATE WAGE DETERMINATIONS

- A. As required by Section 1770 and following, of the California Labor Code, the CONTRACTOR shall pay not less than the prevailing rate of per diem wages as determined by the Director of the California Department of Industrial Relations. This information is available on the internet at: <http://www.dir.ca.gov/DLSR/PWD/index.htm>, various regulations can be found at <http://www.dir.ca.gov/t8/ch8sb3.html>. The CONTRACTOR shall comply with California Labor Code and shall post a copy of the prevailing wages at the jobsite.
- B. In accordance with Section 1775 of the California Labor Code, the CONTRACTOR shall, as a penalty, forfeit to the OWNER \$50.00 (or such other amount required by law) for each calendar day or portion thereof, for each worker paid less than the prevailing rates as determined by the Director for the work or craft in which the worker is employed for any public work done under the Contract Documents by him or her or by any subcontractor under him or her.

16.9 WORKERS' COMPENSATION

- A. In accordance with the provisions of Section 3700 of the California Labor Code, the CONTRACTOR shall secure the payment of workers' compensation for its employees.
- B. Prior to beginning work under the Contract, the CONTRACTOR shall sign and file with the OWNER the following certification:

"I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the WORK of this Contract."
- C. Notwithstanding the foregoing provisions, before the Contract is executed on behalf of the OWNER, a bidder to whom a contract has been awarded shall furnish satisfactory evidence that it has secured in the manner required and provided by law the payment of workers' compensation.

16.10 APPRENTICES ON PUBLIC WORKS

The CONTRACTOR shall comply with Section 1777.5 of the California Labor Code relating to employment of apprentices on public works.

16.11 WORKING HOURS

The CONTRACTOR shall comply with all applicable provisions of Section 1810 to 1815, inclusive, of the California Labor Code relating to working hours. The CONTRACTOR shall, as a penalty, forfeit to OWNER \$25.00 (or such other amount required by law) for each worker employed in the performance of the WORK under the Contract Documents by the CONTRACTOR or by any subcontractor for each calendar day during which such worker is required or permitted to work more than 8

hours in any one calendar day and 40 hours in any one calendar week, unless such worker receives compensation for all hours worked in excess of 8 hours at not less than 1-1/2 times the basic rate of pay.

16.12 CONTRACTOR NOT RESPONSIBLE FOR DAMAGE RESULTING FROM CERTAIN ACTS OF GOD

As provided in Section 7105 of the California Public Contract Code, the CONTRACTOR shall not be responsible for the cost of repairing or restoring damage to the WORK which damage is determined to have been proximately caused by an act of God, which damage is in excess of five percent (5%) of the Contract Price, provided, that the WORK damaged was built in accordance with the Contract Documents and accepted and applicable building standards. Consistent with Section 5.2. above, the CONTRACTOR shall obtain insurance to indemnify the OWNER for any damage to the WORK caused by an act of God as defined in said Section 7105.

16.13 CONCRETE FORMS, FALSEWORK, AND SHORING

The CONTRACTOR shall comply fully with all Laws and Regulations and the requirements of the Construction Safety Orders, State of California, Department of Industrial Relations, regarding the design of concrete forms, false work and shoring, and the inspection of same prior to placement of concrete. Where such Orders require the services of a civil engineer registered in the State of California to approve design calculations and working drawings of the false work or shoring system, or to inspect such system prior to placement of concrete, the CONTRACTOR shall employ a registered civil engineer for these purposes, and all costs therefore shall have been included in the Contract Price, and CONTRACTOR shall not be entitled to an increase in Contract Price or Contract Times.

16.14 SUBSTITUTION OF SECURITIES FOR WITHHELD FUNDS

- A. Pursuant to Section 22300 of the California Public Contract Code, the CONTRACTOR may substitute securities for any money withheld by the OWNER to insure performance under the Contract Documents. At the request and expense of the CONTRACTOR, securities equivalent to the amount withheld shall be deposited with the OWNER or with a state or federally chartered bank in California as the escrow agent, who shall return such securities to the CONTRACTOR upon satisfactory completion of the Contract Documents.
- B. Alternatively, the CONTRACTOR may request and the OWNER shall make payment of retentions earned directly to the escrow agent at the expense of the CONTRACTOR. At the expense of the CONTRACTOR, the CONTRACTOR may direct the investment of the payments into securities and the CONTRACTOR shall receive the interest earned on the investments upon the same terms provided for in this section for securities deposited by the CONTRACTOR. Upon satisfactory completion of the Contract Documents, the CONTRACTOR will receive from the escrow agent all securities, interest, and payments received by the escrow agent from the OWNER, pursuant to the terms of the Contract Documents.

- C. Securities eligible for investment under Section 22300 shall be limited to those listed in Section 16430 of the Government Code and to bank or savings and loan certificates of deposit, interest bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by the CONTRACTOR and the OWNER.

16.15 PUBLIC WORKS CONTRACTS; ASSIGNMENT TO AWARDING BODY

Pursuant to Section 7103.5 of the California Public Contract Code, in entering into a public works contract, the CONTRACTOR or subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time the awarding body (i.e., OWNER) tenders final payment to the CONTRACTOR, without further acknowledgement by the parties.

16.16 PAYROLL RECORDS; RETENTION; INSPECTION; NONCOMPLIANCE PENALTIES; RULES AND REGULATIONS

- A. In accordance with the Laws and Regulations and Section 1776 of the Labor Code, the CONTRACTOR and each Subcontractor shall keep an accurate payroll record, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with the public work.
- B. The payroll records enumerated under Section 16.16 shall be certified and shall be available for inspection at all reasonable hours at the principal office of the CONTRACTOR and shall be provided to the OWNER upon request on the following basis:
 - 1. A certified copy of an employee's payroll record shall be made available for inspection or furnished to the employee or his or her authorized representative on request.
 - 2. A certified copy of all payroll records enumerated in Section 16.16 shall be made available for inspection or furnished upon request to the OWNER, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations.
 - 3. A certified copy of all payroll records enumerated in Section 16.16 shall be made available upon request by the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through either the OWNER, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested payroll records have not been provided pursuant to Section 16.16, the requesting party shall, prior to being provided the records, reimburse the costs of preparation by the CONTRACTOR,

Subcontractors, and the entity through which the request was made. The public shall not be given access to the records at the principal office of the CONTRACTOR.

- C. The certified payroll records shall be on forms provided by the Division of Labor Standards Enforcement or shall contain the same information as the forms provided by the division. Each CONTRACTOR shall file a certified copy of the records described in this Section, with the entity that requested the records within 10 days after receipt of a written request.
- D. Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the awarding body, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address, and social security number. The name and address of the CONTRACTOR awarded the contract or performing the contract shall not be marked or obliterated.
- E. The CONTRACTOR shall inform the OWNER of the location of the records described in this Section, including the street address, city and county, and shall, within 5 working days, provide a notice of change of location and address.
- F. The CONTRACTOR shall have 10 days in which to comply subsequent to receipt of written notice specifying in what respects the CONTRACTOR must comply with this Section. In the event that the CONTRACTOR fails to comply within the 10-day period, he or she shall, as a penalty to be paid to the OWNER, forfeit twenty-five dollars (\$25.00) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from any payments then due.

16.17 CULTURAL RESOURCES

The CONTRACTOR shall comply with all requirements of the National Historic Preservation Act of 1966 (16 U.S.C. 470).

16.18 PROTECTION OF WORKERS IN TRENCH EXCAVATIONS

- A. As required by Section 6705 of the California Labor Code and in addition thereto, whenever work under the Contract Documents involves the excavation of any trench or trenches 5 feet or more in depth, the CONTRACTOR shall submit for acceptance by the OWNER or by a registered civil or structural engineer, employed by the OWNER, to whom authority to accept has been delegated, in advance of excavation, a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation, of such trench or trenches. If such plan varies from the shoring system standards established by the Construction Safety Orders of the Division of Occupational Safety and Health, the plan shall be prepared by a registered civil or structural engineer employed by the CONTRACTOR, and all costs therefore shall have been included in the Contract Price,

and CONTRACTOR shall not be entitled to an increase in the Contract Price or Contract Times. Nothing in this Section shall be deemed to allow the use of a shoring, sloping, or other protective system less effective than that required by the Construction Safety Orders. Nothing in this Section shall be construed to impose tort liability on the OWNER, or any of their officers, agents, representatives, or employees.

- B. Excavation shall not start until the CONTRACTOR has obtained all required permits therefore and has posted such at the site.

16.19 DIGGING TRENCHES OR EXCAVATIONS; NOTICE ON DISCOVERY OF HAZARDOUS WASTE OR OTHER UNUSUAL CONDITIONS

- A. Pursuant to Public Contract Code, Section 7104, in digging trenches or other excavations that extend deeper than four feet below the surface CONTRACTOR shall promptly, and before the following conditions are disturbed, notify the OWNER, in writing, of any:
 - 1. Material that the CONTRACTOR believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, which is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.
 - 2. Subsurface or latent physical conditions at the site differing from those indicated by information about the site made available to bidders prior to the deadline for submitting bids.
 - 3. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract.
- B. The OWNER shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the CONTRACTOR'S cost of, or the time required for, performance of any part of the WORK shall issue a change order pursuant to the procedures described in the Contract Documents.
- C. In the event that a dispute arises between the OWNER and the CONTRACTOR whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the CONTRACTOR'S cost of, or time required for, performance of any part of the WORK, the CONTRACTOR shall not be excused from any scheduled completion date provided for by the Contract Documents, but shall proceed with all WORK to be performed under the Contract Documents. The CONTRACTOR shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

16.20 TRAVEL AND SUBSISTENCE PAY

- A. As required by Section 1773.8 of the California Labor Code, the CONTRACTOR shall pay travel and subsistence payments to each workman needed to perform the WORK, as

such travel and subsistence payments are defined in the applicable collective bargaining agreements filed in accordance with Section 1773.8.

- B. To establish such travel and subsistence payments, the representative of any craft, classification or type of workman needed to execute the agreements shall file with the Department of Industrial Relations fully executed copies of collective bargaining agreements for the particular craft, classification or type of work involved. Such agreements shall be filed within 10 days after their execution and thereafter shall establish such travel and subsistence payments whenever filed 30 days prior to the call for bids.

16.21 REMOVAL, RELOCATION, OR PROTECTION OF EXISTING UTILITIES

- A. In accordance with Section 4215 of the California Government Code, OWNER shall assume the responsibility, between the parties to the contract, for the timely removal, relocation, or protection of existing utility facilities located on the Site of the WORK, if such utilities are not identified by the OWNER in the plans and specifications made a part of the invitation for bids. The OWNER will compensate CONTRACTOR for the costs of locating, repairing damage not due to the failure of the CONTRACTOR to exercise reasonable care, and removing or relocating such utility facilities not indicated in the plans and specifications with reasonable accuracy, and for equipment on the Project necessarily idled during such work.
- B. The CONTRACTOR shall not be assessed liquidated damages for delay in completion of the WORK, when such delay was caused by the failure of the OWNER or the owner of the utility to provide for removal or relocation of such utility facilities.
- C. Nothing herein shall be deemed to require the OWNER to indicate the presence of existing service laterals or appurtenances when the presence of such utilities on the Site of the WORK can be inferred from the presence of other visible facilities, such as buildings, meter and junction boxes, on or adjacent to the site of construction; provided, however, nothing herein shall relieve the OWNER from identifying main or trunk lines in the plans and specifications.
- D. If the CONTRACTOR while performing the Contract discovers utility facilities not identified by the public agency in the Contract Documents it shall immediately notify the OWNER and utility in writing.
- E. Notwithstanding the foregoing, CONTRACTOR shall strictly comply with all Laws and Regulations including Sections 4216, et seq. of the Government Code governing excavations and subsurface installations and utilities.

CERTIFICATE OF INSURANCE
TO
SANTA ANA WATERSHED PROJECT AUTHORITY

This certifies to Santa Ana Watershed Project Authority, (SAWPA) that the following described policies have been issued to the insured named below and are in force at this time.

Insured: _____

Address: _____

These policies provide insurance coverage for all elements of the work required for the Contact awarded to the Insured which is titled: _____

POLICIES AND INSURERS

WORKERS' COMPENSATION

_____ Policy No. _____ Best's Rating _____

(Name of Insurer)

Employer's Liability \$ _____ Expiration Date: _____

[_____] **COMPREHENSIVE GENERAL LIABILITY**

_____ Policy No. _____ Best's Rating _____

(Name of Insurer)

Each Occurrence	\$ _____	Personal Injury	\$ _____
General Aggregate (If Applicable)	\$ _____	Fire Damage (per fire)	\$ _____
Products/Comp Opr Aggregate	\$ _____	Self-insured Retention	\$ _____
Medical Expense (per person)	\$ _____		

[_____] Premises - Operations

[_____] Owner's & Contractor's Protective

[_____] Contractual for Specific Contract

[_____] XCU Hazards

[_____] Broad Form P.D.

[_____] Severability of Interest Clause

[_____] Personal Injury with Employee
Exclusion Removed

or

[_____] Commercial General Liability

Expiration Date _____

CERTIFICATE OF INSURANCE
PAGE TWO

POLICIES AND INSURERS

AUTOMOTIVE / VEHICLE LIABILITY

Commercial Form Liability Coverage

(Name of Insurer)

Policy No. _____ Best's Rating _____

BODILY INJURY

PROPERTY DAMAGE

Each Person \$ _____

Each Accident \$ _____

Each Accident \$ _____

or

Combined Single Limit \$ _____

Expiration Date _____

EXCESS LIABILITY

Name of Insurer)

Policy No. _____ Best's Rating _____

[_____]Umbrella Form

[_____]Other Than Umbrella Form

Each Occurrence \$ _____

Aggregate \$ _____

Self-Insured Retention \$ _____

Expiration Date _____

BUILDER'S ALL RISK

Face Amount Equal to Contract Amount \$ _____

(Name of Insurer)

Policy No. _____ Best's Rating _____ Expiration Date _____
(Not sooner than Contract completion date)

Self-Insured Retention \$ _____
(Not more than 5% of the Contract amount)

CERTIFICATE OF INSURANCE
PAGE THREE

[_____] POLLUTION LIABILITY INSURANCE

(Name of Insurer) Policy No. _____ Best's Rating _____

Each Occurrence \$ _____

The following provisions and types of coverage are included in said policies (indicated by "X") in the appropriate space:

1. [] SAWPA, its Commissioners, the Engineer, and Consultants, and each of their Directors, Officers, Employees and Agents, for this contract, and all public agencies from whom permits will be obtained and their Directors, Officers, Employees and Agents are Additional Insureds as to work being performed under this Agreement.
2. [] The coverage is Primary, and no other insurance carried by SAWPA will be called upon to contribute to a loss under the coverage.
3. [] The Policy(ies) limits are provided on an (occurrence/claims made) basis. (Strike out inapplicable)
4. [] Coverage for Broad Form property damage liability, including completed operations.
5. [] The policy(ies) cover personal injury liability, as well as bodily injury liability.
6. [] Coverage for products and completed operations.
7. [] The policy(ies) shall not be cancelled or materially altered without thirty (30) days' prior written notice to SAWPA at the address listed.
8. [] The policy(ies) cover the use of all autos when owned by the Insured.
9. [] The policy(ies) cover the use of all autos hired by the Insured.
10. [] The policy(ies) cover the use of all non-owned autos.
11. [] The insurance afforded by the policy for Contractual Liability Insurance (subject to the terms, conditions and exclusions applicable to such insurance) includes liability assumed by the named insured under the indemnification or hold harmless provision contained in the written contract between the named insured and SAWPA.

Agent's Initials

A copy of all Endorsements to the policy(ies) which in any way limit the above listed types of coverage are attached to this Certificate of Insurance.

CERTIFICATE OF INSURANCE
PAGE FOUR

This Certificate or Verification of Insurance is not an insurance policy and does not amend, extend or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term, or condition of any contract or any other document with respect to which this Certificate or Verification of Insurance may be issued or may pertain, the insurance afforded by the policies described herein is subject to all terms, exclusions and conditions of such policies.

IT IS HEREBY CERTIFIED that the above policy(ies) provide liability insurance as required by the Agreement between the Santa Ana Watershed Project Authority and the Insured.

NOTICE

No substitution or revision to the above certificate form will be accepted. If the insurance called for is provided by more than one insurance company, a separate Certificate in the exact above form shall be provided for each insurance company.

CERTIFICATION OF INSURANCE (LIABILITY)

PAGE FIVE

(WORKERS' COMPENSATION)

(AUTOMOTIVE)

(EXCESS LIABILITY)

(BUILDER'S ALL RISK)

(POLLUTION LIABILITY)

Insurers must be admitted in and regulated by the State of California. The Insurers must also have an "A" policyholder's rating and a financial rating of at least Class VII in accordance with the most current Best's Guide Rating.

Insurer: _____ Agent: _____

Address: _____ Address: _____

Telephone: _____ Telephone: _____

Fax: _____ Fax: _____

SIGNATURE OF INSURER OR AUTHORIZED REPRESENTATIVE OF THE INSURER

I, _____ (print/type name), warrant that I have authority to bind the issuing insurance company and by my signature hereon do so bind said company.

(Signature of Authorized Representative)

Organization: _____ Title: _____

Address: _____ Telephone: _____

Original signature also required on all Endorsements furnished to SAWPA.

Note: This page five must be separately completed for each policy of insurance.

COMPREHENSIVE GENERAL LIABILITY
COMMERCIAL GENERAL LIABILITY

ENDORSEMENT AGGREGATE LIMITS OF
INSURANCE PER PROJECT

In consideration of the policy premium and notwithstanding any inconsistent statement in the policy to which this Endorsement is attached or any other Endorsement attached thereto, it is agreed as follows:

This Endorsement modifies the insurance provided under the General Liability Coverage part of the policy of insurance referenced below, as follows:

The general aggregate limit under LIMITS OF INSURANCE applies separately to the project described by Contract: _____

POLICY INFORMATION

1. Insurance Company: _____
("the Company"); Policy No. _____
2. Effective Date of this Endorsement: _____
3. Named Insured: _____
4. Contract: _____

All notices herein provided to be given by the Company to the Owner in connection with this policy and this Aggregate Limits of Insurance Per Project Endorsement, shall be mailed or delivered to SAWPA at its main office, 11615 Sterling Avenue, Riverside, California 92503.

I, _____(print/type name), warrant that I have authority to bind the above listed insurance company and by my signature hereon do bind this company.

(Signature of Authorized Representative)
(Original signature required on all Endorsements furnished to SAWPA)

Name of Agent/Agency: _____
Title: _____ Telephone: _____ Fax: _____

Address: _____

WAIVER OF SUBROGATION ENDORSEMENT
(LIABILITY)
(AUTOMOTIVE)
(EXCESS LIABILITY)
(BUILDER'S ALL RISK)
(POLLUTION LIABILITY)

In consideration of the policy premium and notwithstanding any inconsistent statement in the policy to which this Endorsement is attached or any other Endorsement attached thereto, it is agreed as follows:

The Insurance Company waives any right to subrogation it may acquire against SAWPA, its Commissioners, the engineer and consultants, and each of their Directors, Officers, Agents, and Employees for this contract, and all public agencies from whom permits will be obtained and their Directors, Officers, Employees and Agents by reason of any payment made on account of injury, including death of persons resulting therefrom, sustained by any employee of any insured, arising out of the performance of the contract referenced below .

POLICY INFORMATION

1. Insurance Company: _____
("the Company"); Policy No. _____
2. Effective Date of this Endorsement: _____
3. Named Insured: _____
4. Contract: _____

All notices herein provided to be given by the Company to the Owner in connection with this policy and this Waiver of Subrogation Endorsement, shall be mailed or delivered to SAWPA at its main office, 11615 Sterling Avenue, Riverside, California 92503.

I, _____(print/type name), warrant that I have authority to bind the above listed insurance company and by my signature hereon do bind this company.

(Signature of Authorized Representative)
(Original signature required on all Endorsements furnished to SAWPA)

Name of Agent/Agency: _____ Title: _____
Telephone: _____ Fax: _____
Address: _____

ADDITIONAL INSURED ENDORSEMENT
(LIABILITY)
(AUTOMOTIVE)
(EXCESS LIABILITY)
(BUILDER'S ALL RISK)
(POLLUTION LIABILITY)

In consideration of the policy premium and notwithstanding any inconsistent statement in the policy to which this Endorsement is attached or any other Endorsement attached thereto, it is agreed as follows:

The Santa Ana Watershed Project Authority, California, its Commissioners, the Engineer, Consultants and each of their Directors, Officers, Employees and Agents, and all Public Agencies from whom permits will be obtained and their Directors, Officers, Employees and Agents are hereby declared to be additional insureds under the terms of this policy, but only with respect to the operations of the Contractor at or from any of the premises of SAWPA in connection with the contract with SAWPA designated below, or acts and omissions of the additional insureds in connection with its general supervision or inspection of said operations.

POLICY INFORMATION

1. Insurance Company: _____
("the Company"); Policy No.: _____
2. Effective Date of this Endorsement: _____
3. Named Insured: _____
4. Contract : _____

All notices herein provided to be given by the Company to the Owner in connection with this policy and this Additional Insured Endorsement, shall be mailed or delivered to SAWPA at its main office, 11615 Sterling Avenue, Riverside, California 92503.

I, _____ (print/type name), warrant that I have authority to bind the above listed insurance company and by my signature hereon do so bind this company.

(Signature of Authorized Representative)
(Original signature required on all Endorsements furnished to SAWPA)

Name of Agent/Agency: _____

Title: _____ Telephone: _____ Fax: _____

Address: _____

NOTICE OF POLICY TERMINATION
OR CANCELLATION ENDORSEMENT
(LIABILITY)
(AUTOMOTIVE)
(EXCESS LIABILITY)
(BUILDER'S ALL RISK)
(WORKERS' COMPENSATION)
(POLLUTION LIABILITY)

In consideration of the policy premium and notwithstanding any inconsistent statement in the policy to which this Endorsement is attached or any other Endorsement attached thereto, it is agreed as follows:

Cancellation Notice. The insurance afforded by this policy shall not be suspended, voided, cancelled, reduced in coverage or in its limits except after thirty(30) days' prior written notice by certified mail, return receipt requested, has been given to SAWPA, with copy to the Engineer. Such notice shall be addressed to SAWPA as indicated below.

1. Insurance Company: _____
("the Company") Policy No.: _____
2. Effective Date of this Endorsement: _____
3. Named Insured: _____
4. Contract: _____

All notices herein provided to be given by the Company to the Owner in connection with this policy and this Notice of Policy Termination or Cancellation Endorsement, shall be mailed or delivered to SAWPA at its main office, 11615 Sterling Avenue, Riverside, California 92503.

I, _____(Print/type name), warrant that I have authority to bind the above listed insurance company and by my signature hereon do so bind this company.

(Signature of Authorized Representative)
(Original signature required on all Endorsements furnished to SAWPA)

Name of Agent/Agency: _____

Title: _____ Telephone: _____ Fax: _____

Address: _____

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SECTION 01010

SUMMARY OF WORK

PART1 GENERAL

1.01 LOCATION OF WORK

- A. The work of this Contract is located in the active and flowing low-flow channel of the Santa Ana River upstream of the Van Buren/Santa Ana River Crossing and the adjacent overbanks and flood plain, in the City of Jurupa Valley and County of Riverside; approximately 1,500 feet south of the intersection of Clay Street and Van Buren Boulevard.
- B. Unless otherwise noted all outdoor equipment, shall be designed, or modified, to operate satisfactory for the following:
 - 1. Altitude: 675 ft above Mean Sea Level
 - 2. Environment: Semi-arid area, approximately 80 percent sunny days, annual rainfall varies greatly, averages approximately 12 inches, relative humidity ranges from 10 to 75 percent, winds up to 80 mph and blowing dust.
 - 3. Ambient Air Temperature: Minimum of 25°F and maximum of 115°F.

1.02 SCOPE OF WORK

- A. Furnish all labor, materials, equipment and incidentals required to construct a native fish habitat structure in the active low-flow channel of the Santa Ana River. The structure will be constructed of boulders, rocks, cobbles, pebbles and other materials as specified. The structure will occupy a footprint of approximately 650 square feet. The work includes the construction of access to the habitat structure area.
- B. The Work includes, but is not necessarily limited to, the following:
 - 1. Constructing access to the native fish habitat structure area.
 - 2. Clearing and grubbing of the site and preparing a staging area.
 - 3. Improving an existing access trail.
 - 4. Constructing a temporary, in-stream, river flow control berm.
 - 5. Excavating for the base material in the active low-flow Santa Ana River channel.
 - 6. Importing all rock and aggregate materials to construct the native fish habitat base and structures.
 - 7. Exporting all excess materials including green waste, soil and sand.
 - 8. Constructing and placing, at the direction of the OWNER, all aggregate, rock and woody material to construct the native fish habitat structure and associated features.

9. Restoring the river, staging area and access road.
10. Complying with Mitigation Measures described in the Mitigation Monitoring and Reporting Program.

1.03 WORK BY OTHERS

- A. The Owner, other agencies, utilities, and other contractors may be working within the project area while the Work is in progress. If so, the Contractor shall schedule his/her work in conjunction with these other organizations to minimize interference with them.

1.04 CONTRACTOR'S USE OF PREMISES

- A. Contractor shall limit the use of the premises for his/her Work and for storage to allow for
 1. Work by other contractors
 2. Owner occupancy
 3. Public use.
- B. Coordinate use of premises with Owner and land owner.
- C. Contractor shall assume full responsibility for security of all his/her and his/her subcontractors' materials and equipment stored on the site.
- D. If directed by the Owner, move any stored items, which interfere with operations of Owner, land owner or other contractors.
- E. Obtain and pay for use of additional storage or work areas if needed to perform the Work.

1.05 GENERAL OBLIGATIONS OF THE CONTRACTOR

- A. General obligations of the Contractor shall be as set forth in the Contract Documents. Unless special payment is specifically provided in the payment paragraphs of the specifications, all incidental work and expense in connection with the completion of work under the Contract will be considered a subsidiary obligation of the Contractor and all such costs shall be included in the appropriate items in the Bid Form in connection with which the costs are incurred.

1.06 SITE INVESTIGATION

- A. The Contractor shall satisfy himself/herself as to the conditions existing within the project area, the type of equipment required to perform the work, the character, quality and quantity of the subsurface materials to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, available geotechnical reports, as well as from information presented by the Drawings and Specifications. Any failure of the Contractor to acquaint himself/herself with the available information will not relieve him/her from the responsibility for estimating properly the difficulty or cost of successfully performing the work. The Owner assumes no responsibility for any conclusions or interpretation made by the Contractor on the basis of the information made available by the Owner.

PART 2 PRODUCTS
(NOT USED)

PART 3 INSTALLATION
(NOT USED)

END OF SECTION

SECTION 01025

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.01 BID

- A. The work covered by this Bid shall include the furnishing of all labor, materials, equipment and incidentals required to complete the construction of the Santa Ana Sucker Habitat Protection and Beneficial Use Enhancement Project for the Santa Ana Watershed Project Authority, in its entirety, as shown on the Drawings and as specified in the contract documents.

1.02 DETERMINATION OF QUANTITIES

- A. The quantity of work to be paid for under any item for which a unit price is fixed in the Contract shall be the amount or number, as determined by the Owner, of units of work satisfactorily completed in accordance with the Contract and computed in accordance with the applicable measurement provisions of the Contract. No payment will be made for work done outside of the prescribed or ordered limits to the extent not otherwise provided in the Contract. Measurements and computations shall be made by such methods as the Owner may consider appropriate for the class of work measured.

1.03 MOBILIZATION, DEMOBILIZATION & CLEANUP (ITEM 1)

- A. Measurement

Mobilization and demobilization, as specified on the Bid Form (Item 1), will be measured as a lump sum.

- B. Payment

Mobilization and demobilization shall consist of preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies, and incidentals to the Project site; for the establishment and closing of all offices, buildings, and other facilities necessary for work on the project, preparation of contract schedule, shop drawing, and other submittals; for acquiring permits and payment of associated fees, obtaining laydown areas, for all other work and operations which must be performed or costs incurred prior to beginning and after completing work on the various Contract items on the project site and all work required for or incidental to the satisfactory completion of the Items for which separate payment is not provided under other items in the Bid Form.

Payment for mobilization and demobilization shall be at the percentage lump sum of the completed work (Item 1) and shall not exceed 5 percent of the total bid price. Payment shall be made at 2/3 the item bid price for mobilization and 1/3 the item bid price for demobilization.

1.04 SHEETING, SHORING, BRACING & Cal/OSHA (ITEM 2)

- A. Measurement

Sheeting, shoring, bracing and Cal/OSHA as specified on the Bid Form (Item 2) will be measured as a lump sum.

- B. Payment

Payment for sheeting, shoring, bracing and Cal/OSHA shall be at the percentage of the lump sum of the completed work (Item 2) and shall include all labor, materials, and equipment necessary for temporary sheeting, shoring, and bracing or equivalent method, planning, design, engineering fees, furnishing and constructing, and removal and disposal of such temporary sheeting, shoring, and bracing complete as necessary for the Work or as required under the provisions of any permits, and in accordance with the requirements of OSHA. This bid item will also include all other costs for the contractor to comply with all Cal/OSHA requirements to perform and complete the work. Payment for temporary sheeting, shoring, and bracing or equivalent shall constitute full compensation for completion of all shoring and bracing as required to complete the project, and all work required for or incidental to the satisfactory completion of the items for which separate payment is not provided under other items in the Bid Form.

1.05 EROSION CONTROL, DUST CONTROL & BMPs (ITEM 3)

A. Measurement

Erosion control, dust control and BMPs as specified on the Bid Form (Item 3) will be measured as a lump sum.

B. Payment

Payment for erosion control, dust control and BMPs shall be at the percentage of the lump sum of the completed work (Item 3) and shall include all labor, materials, and equipment necessary for the contractor to maintain a safe, neat and clean worksite to the satisfaction of the Owner or its representative. The contractor will provide its own sanitary facilities, trash/debris receptacles and will implement practices to prevent trash/debris from moving around the site and from leaving the site. The contractor will use BMPs to prevent any sediment or debris from leaving the site due to tire tracking, storm water runoff or by other means. At a minimum, BMPs will include the use of sand bags, silt fence, straw wattles, rumble strips and coarse rock driveway approaches at the Santa Ana River Site and the Source Material Site. The contractor will be solely responsible for installing, inspecting and maintaining the BMPs throughout the duration of the project. The contractor will apply water to the Santa Ana River Site and the Source Material Site multiple times per day as needed to control dust. At the end of the project the contractor will return all areas, facilities and existing structures to original, or better, condition to the satisfaction of the Owner or its representative.

1.06 SURVEYS (ITEM 4)

A. Measurement

Surveys as specified on the Bid Form (Item 4) will be measured as a lump sum.

B. Payment

Payment for surveys shall be at the percentage lump sum of the completed work (Item 4) and shall include all labor, materials, and equipment necessary for a preconstruction photo and video survey, post-construction photo and video survey and regular construction surveys and staking. The pre and post project site inspection, pre and post project video and photo surveys will be scheduled and performed along with an Owner's representative. All notes, data, videos, and photographs from the pre and post inspections will be provided by the Contractor to the Owner in electronic format. The Owner will provide a construction survey benchmark and 2 offset

stakes at the start of the project. The Contractor will protect-in-place the initial Owner survey stakes and will provide all survey and staking throughout the duration of the project.

1.07 CONSTRUCTION WATER (ITEM 5)

A. Measurement

Construction water as specified on the Bid Form (Item 5) will be measured as a lump sum.

B. Payment

Payment for construction water shall be at the percentage lump sum of the completed work (Item 5) and shall include all labor, materials, and equipment necessary for the contractor to provide all water required to construct the project and control dust for the duration of the project. The contractor will apply for, obtain, secure, operate and pay for a construction water meter and all water costs required for the project at the Santa Ana River Site and the Source Material Site. The contractor will not pump or otherwise remove any water out of the flowing Santa Ana River. The contractor may use standing water for dust control from temporary dewatering within the diversion berm area once constructed by the contractor.

1.08 WATER MANAGEMENT (RIVER, SURFACE & SUBSURFACE) (ITEM 6)

A. Measurement

Water management (river, surface and subsurface) as specified on the Bid Form (Item 6) will be measured as a lump sum.

B. Payment

Payment for water management (river, surface and subsurface) shall be at the percentage lump sum of the completed work (Item 6) and shall include all labor, materials, and equipment necessary to control the flow of water during the performance and completion of the work. The Contractor will be required to construct a temporary diversion berm within the active low flow channel of the Santa Ana River to isolate the work area from flowing water. The native riverbed material from the habitat structure footprint area will be used to construct the berm. The Contractor will perform the work in cooperation with the Owner to protect native fish in the area. The Owner will provide exclusion netting during the berm construction and the Owner's biologists will be onsite to clear the area of native fish. Once the diversion berm is in-place, there will be no Contractor activities allowed outside of the berm. If at any time there is a breach in the berm, the Contractor will stop all work immediately until such time that the Owner's biologists clear the site and the berm is repaired. The Contractor will maintain and repair the berm as needed (under the supervision of the Owner's biologists) at no additional cost to the Owner for the duration of the project. The work area inside the berm is expected to be wet and have standing water in it during the work. The Contractor may temporarily pump water from within the berm area to achieve base grading elevations and dimensions and place base aggregate in the excavation. Standing water in the excavation will be allowed as long as the base aggregate can be placed to the dimensions in the drawings.

1.09 VEHICLE & PEDESTRIAN TRAFFIC CONTROL (ITEM 7)

A. Measurement

Vehicle and pedestrian traffic control as specified on the Bid Form (Item 7) will be measured as a lump sum.

B. Payment

Payment for vehicle and pedestrian traffic control shall be at the percentage lump sum of the completed work (Item 7) and shall include all labor, materials, and equipment necessary for the Contractor to prepare and implement a project specific site access and traffic control plan, including any required hauling permits. The traffic control plan will be submitted to the Owner for approval and will include pedestrian and vehicle traffic control measures for the duration of the project. The Contractor will also include a plan, materials and/or personnel to preserve site security throughout the duration of the project. Continuous, safe and adequate passage and access will be preserved on the trail/sidewalk for pedestrian and bicycle traffic between the worksite and Van Buren Boulevard at ALL times. Continuous, safe and adequate passage and access will be maintained by the Contractor for the Owner (or its representatives) into the project site throughout the duration of the project. No city street lane closures will be allowed unless specifically approved and permitted by the city prior to the proposed closures. The Contractor is solely responsible for obtaining any and all approval and permits for traffic control, hauling, mobilization and demobilization. All work will be performed from within the property boundaries identified in the construction drawings.

1.10 CLEARING, GRUBBING, DEMOLISHING & SITE PREPARATION (ITEM 8)

A. Measurement

Clearing, grubbing, demolishing and site preparation as specified on the Bid Form (Item 8) will be measured as a lump sum.

B. Payment

Payment for clearing, grubbing, demolishing and site preparation shall be at the percentage lump sum of the completed work (Item 8) and shall include all labor, materials, and equipment necessary for clearing, grubbing and site preparation required by the Contractor to complete the project. In general, the areas to be cleared and grubbed are identified on the drawings, however, a lesser area will be cleared and grubbed by the Contractor in accordance with direction provided by the Owner as to which trees/shrubs and other vegetation is to be removed. Clearing and grubbing shall include all trees/shrubs and other vegetation within the plan view footprints indicated on the drawings. The Contractor will remove all vegetation including root balls from the site. There is approximately 0.85 acres of vegetation to be removed and disposed of. The Contractor is responsible for securing all required haul permits to transport material from the project site to an approved disposal site. The contractor will be responsible for paying all fees associated with disposing of the material at an approved off-site disposal facility. The contractor will be required to maintain access roads and control dust on-site at all times. The contractor will saw cut and salvage 5 branches/trunk sections from the trees removed during clearing and grubbing. The 5 branches/trunk sections will be on average 4 to 10 inches in diameter and 10 feet in length. The Owner will select which branches/trunk sections are to be salvaged. The Contractor will cut and trim the branches/trunk sections and store them on-site for placement during groin construction. The 5 branches/trunk sections will be positioned and embedded into the rock structures and river bank as directed in the field by the Owner. Upon

completion of the project, and prior to final de-mobilization, the contractor will level and finish grade all areas that were disturbed by the contractor's activities. Any rocks (larger than 6 inches in diameter) or any other debris that surfaces after finish grading is complete will be picked-up and disposed of by the Contractor. Vegetation growth will occur, and biomass export volume will increase, between bid time and construction. Contractor will assume that the removal and export volume of the biomass will be double (2X) of that observed during bid phase and include pricing /costs in their bid for the increased clearing, grubbing and export.

1.11 ONSITE GRADING (ITEM 9)

A. Measurement

Onsite grading as specified on the Bid Form (Item 9) will be measured in acres.

B. Payment

Payment for onsite grading shall be at the percentage of the acreage completed (Item 9) and shall include all labor, materials, and equipment necessary for the Contractor to excavate and grade the site to complete the project. Onsite grading will include excavation and grading of the staging area, filling and grading the access road and grading the borrow area. The total maximum area that will be graded is 0.95 acres. Grading of the staging area and access road will include smoothing the existing grade and adding fill in low spots to match the existing surrounding grade.

1.12 MATERIAL EXPORT (ITEM 10)

A. Measurement

Material export as specified on the Bid Form (Item 10) will be measured in cubic yards.

B. Payment

Payment for material export shall be by the volume of material hauled as measured in unconsolidated cubic yards (Item 10) and shall include all labor, materials, and equipment necessary for the Contractor to load, haul and dispose of soil, sediment, sand, rock and debris from the Santa Ana River site. The volume of material exported will be equal to the volume of material imported to result in a zero (0) net fill volume at the Santa Ana River site. Trucks used to export the material will be measured to determine their capacity in cubic yards. Each truck's measured volume minus freeboard, will be the basis for calculating the volume of material exported. The Contractor may assume, for the purposes of this bid, that a total of 220 cubic yards of material will need to be exported and disposed of. Please note, this bid item is for additional material above and beyond the green waste, biomass and root balls that the Contractor will export and dispose of during the clearing, grubbing, demolishing and site prep task. Material from the clearing, grubbing, demolishing and site prep task will not count towards the total volume of material export described in this task (Material Export Item 10).

1.13 FINISH GRADING & RESTORE SITE (ITEM 11)

A. Measurement

Finish grading and restore site as specified on the Bid Form (Item 11) will be measured in acres.

B. Payment

Payment for finish grading and restore site shall be at the percentage of the acreage completed (Item 11) and shall include all labor, materials, and equipment necessary for the Contractor to finish grade the site and restore the site back to as-good or better condition. Finish grading will include the grading of the access road, staging area, borrow area and in-stream work areas. The total maximum area that will be graded is 0.95 acres. Grading of in-stream work area will include leveling and/or removing the diversion berm in a controlled and deliberate manner. All in-stream work will be under the supervision of the Owner's biologists and will be performed in a manner to not harm native fish. The Contractor shall dedicate extra labor, equipment and time to complete the in-stream site restoration. All other finish grading will include cut and fill to match the existing surrounding grades. Once finish grading is complete, the Owner may direct the Contractor to scarify some areas for re-planting, the contractor will remove any surface debris or rocks measuring larger than 6 inches in diameter. The Contractor will not be responsible for any re-planting of the site. The Owner will provide and install any and all restoration plantings in the 0.95 acre footprint. The Contractor will also finish grade and restore the Source Material site. The Source Material site work will include regrading around all material stockpiles, removal of all old straw wattles and installation new straw wattles around all of the material stockpiles. The area for the Source Material site is not included in the 0.95 acres and is above and beyond the 0.95 acre quantity. The Contractor may assume that there is 1.33 acres of existing access roads to re-graded at the Source Material Site 1 and the Contractor will furnish and install 2,000 linear feet of straw wattle at the Source Material Site 1.

1.14 ACCESS ROAD CONSTRUCTION (ITEM 12)

A. Measurement

Access road construction as specified on the bid sheet (Item 12) will be measured as a lump sum.

B. Payment

Payment for the access road construction (Item 12) shall be full compensation for construction of the access road along the upstream edge of the Van Buren Boulevard Bridge, extending from the existing access trail at the north bridge abutment to the south for approximately 650 linear feet to the staging area. Access road construction will include scarifying, watering and compacting the existing access trail as well as filling, watering, compacting and grading the access road to width of 25 feet. A portion of the access road will require fill material to be hauled from the borrow site to the north end of the access road to construct a grade transition ramp into the overbank area. The finished surface of the access road will generally match the surrounding grade. A total of 50 cubic yards of crushed aggregate base (CAB) will be placed by the Contractor in areas of the access road that are soft and difficult to traverse. The intent of the CAB is not to create a continuous driving surface of base material, but rather selectively place CAB as needed on the access road throughout the duration of the project to facilitate construction activities.

1.15 ACCESS ROAD AGGREGATE INCLUDING TRUCKING (ITEM 13)

A. Measurement

Access road aggregate including trucking as specified on the Bid Form (Item 13) will be measured in cubic yards.

B. Payment

Payment for access road aggregate including trucking shall be by the volume of CAB hauled as measured in unconsolidated cubic yards (Item 13) and shall include all labor, materials, and equipment necessary for the Contractor to purchase, load, haul and unload the CAB at the Santa Ana River site. The volume of material imported will be 50 cubic yards. Trucks used to import the CAB material will be measured to determine their capacity in cubic yards. Each truck's measured volume minus freeboard, will be the basis for calculating the volume of material imported. The Contractor may assume, for the purposes of this bid, that a total of 50 cubic yards of CAB material will need to be imported.

1.16 BASE, GROIN & APRON AGGREGATE IMPORT INCLUDING TRUCKING (ITEM 14)
DELETEABLE BID ITEM

A. Measurement

Base, groin and apron aggregate import including trucking as specified on the Bid Form (Item 14) will be measured in cubic yards.

B. Payment

Payment for base, groin and apron aggregate import including trucking shall be by the volume of material hauled as measured in unconsolidated cubic yards (Item 14) and shall include all labor, materials, and equipment necessary for the Contractor to load the material at the Source Material Site 1, haul and unload the material at the Santa Ana River site. The base, groin and apron aggregate materials are being provided at no charge to the Owner for this project and will only require the Contractor to load and haul the material from the Source Material Site 1 to the Santa Ana River Site. The Source Material Site 1 is located approximately 0.5 miles east-south-east of the Redlands Municipal Airport in the City of Redlands and is owned by the San Bernardino Valley Municipal Water District. The Source Material Site 1 is located at 34° 45'2.70"N and 117° 7'53.52"W. The Contractor and all sub-contractors shall provide insurance coverage to the San Bernardino Valley Municipal Water District in a form and at the limits provided to the Owner for this Project. The volume of material imported will be 20 cubic yards of base material (1' to 2' diameter rocks), 30 cubic yards of groin material (0.5' to 2' diameter rocks), 30 cubic yards of apron 1 material (0.5' to 1' diameter rocks), 20 cubic yards of apron 2 material (1" to 6" diameter rocks and cobbles). Trucks used to haul the base, groin and apron aggregate will be measured to determine their capacity in cubic yards. Each truck's measured volume minus freeboard, will be the basis for calculating the volume of material hauled. The Contractor may assume, for the purposes of this bid, that a total of 100 cubic yards of material will need to be loaded and hauled from the Source Material Site 1 to the Santa Ana River Site. The Owner will direct the Contractor which portions of the Source material stockpiles will meet the Project specifications, and therefore no gradation testing will be required for those materials. The Contractor will be required to sort and move some other materials and aggregate at the Source Material Site 1 and Site 2 in order to access the selected aggregate and boulders.

1.17 BOULDER IMPORT INCLUDING TRUCKING (ITEM 15)
DELETEABLE BID ITEM

A. Measurement

Boulder import including trucking as specified on the Bid Form (Item 15) will be measured by each individual boulder.

B. Payment

Payment for boulder import including trucking shall be by each individual boulder delivered (Item 15) and shall include all labor, materials, and equipment necessary for the Contractor to load the boulders at the Source Material Site 2, haul and unload the boulders at the Santa Ana River site. The boulders are being provided at no charge to the Owner for this project and will only require the Contractor to load and haul the boulders from the Source Material Site 2 to the Santa Ana River Site. The Source Material Site 2 is located approximately 1.7 miles east-north-east of the Redlands Municipal Airport in the City of Redlands and is owned by the San Bernardino Valley Municipal Water District. The Source Material Site 2 is located at 34° 6'4.52"N and 117° 7'7.97"W. The Contractor and all sub-contractors shall provide insurance coverage to the San Bernardino Valley Municipal Water District in a form and at the limits provided to the Owner for this Project. The quantity of boulders transported will be 4 boulders each measuring an average of 7 feet in diameter or smaller. The Contractor may assume, for the purposes of this bid, that a total of 4, 7-foot diameter boulders will need to be loaded and hauled from the Source Material Site 2 to the Santa Ana River Site. The Owner will select each of the boulders and direct the Contractor which boulders are to be transported. The Contractor will be required to sort and move some other materials and boulders at the Source Material 2 Site in order to access the selected boulders.

1.18 GROIN & BOULDER BASE CONSTRUCTION (ITEM 16)

A. Measurement

Groin and boulder base construction as specified on the Bid Form (Item 16) will be measured in cubic yards.

B. Payment

Payment for the groin and boulder base construction (Item 16) shall be based on the physical measurement of cubic yards in-place. This bid item will include the final excavation of the base subgrade cuts to the specified dimensions and will require work in standing water. Once the subgrade excavation is complete the Contractor will place the base material (20 cubic yards of 1' to 2' diameter rock). The base material will be pressed/tamped into place by using a long-reach hydraulic excavator (or similar equipment). The Contractor shall preserve the cleanliness of the aggregate material at the Santa Ana River Site and during handling and placement to avoid the introduction of soils, debris, sands, silts and clays to the imported material. The Contractor may choose to import the material as it is being used or construct an aggregate work pad that shall be removed after construction is complete (or other methods). The material used for a work pad will be solely at the Contractor's expense and will not utilize quantities set aside for the CAB line item.

1.19 GROIN MAIN STRUCTURE CONSTRUCTION (ITEM 17)

A. Measurement

Groin main structure construction as specified on the Bid Form (Item 17) will be measured in cubic yards.

B. Payment

Payment for the groin main structure construction (Item 17) shall be based on the physical measurement of cubic yards in-place. This bid item may include backfill of native material

around the base and will likely require work in standing water. The Contractor will place the groin material (30 cubic yards of 0.5' to 2' diameter rocks) by using equipment and by hand labor forces. The groin main structure may be constructed by using a long-reach hydraulic excavator (or similar equipment). The Contractor shall preserve the cleanliness of the aggregate material at the Santa Ana River Site and during handling and placement to avoid the introduction of soils, debris, sands, silts and clays to the imported material. The Contractor may choose to import the material as it is being used or construct an aggregate work pad that shall be removed after construction is complete (or other methods). The material used for a work pad will be solely at the Contractor's expense and will not utilize quantities set aside for the CAB line item.

1.20 HABITAT APRONS CONSTRUCTION (ITEM 18)

A. Measurement

Habitat aprons with gradations 1 and 2 construction as specified on the Bid Form (Item 18) will be measured in cubic yards.

B. Payment

Payment for the habitat aprons construction (Item 18) shall be based on the physical measurement of cubic yards in-place. This bid item may include backfill of native material around the groin main structure and will likely require work in standing water. The Contractor will place the apron material (30 cubic yards of apron 1 material (0.5' to 1' diameter rocks), 20 cubic yards of apron 2 material (1" to 6" diameter rocks and cobbles)), by using equipment and by hand labor forces. The aprons may be constructed by using a long-reach hydraulic excavator (or similar equipment). The Contractor shall preserve the cleanliness of the aggregate material at the Santa Ana River Site and during handling and placement to avoid the introduction of soils, debris, sands, silts and clays to the imported material. The Contractor may choose to import the material as it is being used or construct an aggregate work pad that shall be removed after construction is complete (or other methods). The material used for a work pad will be solely at the Contractor's expense and will not utilize quantities set aside for the CAB line item.

1.21 BOULDER PLACEMENT (ITEM 19)

A. Measurement

Boulder placement as specified on the Bid Form (Item 19) will be measured by each individual boulder.

B. Payment

Payment for boulder placement shall be by each individual boulder (Item 19) and shall include all labor, materials, and equipment necessary for the Contractor to place each boulder in its final position. The Contractor should assume that each boulder will measure an average of 7 feet in diameter or smaller. The Owner will select which boulder gets placed in each location. The Contractor will place the boulders in a manner that does not damage the base pads. The Contractor shall preserve the cleanliness of the boulders at the Santa Ana River Site and during handling and placement to avoid the introduction of soils, debris, sands, silts and clays to the boulders or Santa Ana River. The Contractor may choose to import the boulders as they are being used or construct an aggregate work pad that shall be removed after construction is complete (or other methods). The material used for a work pad will be solely at the Contractor's expense and will not utilize quantities set aside for the CAB line item.

END OF SECTION

SECTION 01040

COORDINATION OF THE WORK

PART 1 GENERAL

1.01 THE REQUIREMENT

- A. This section covers the Contractor's responsibilities for coordinating Work on this Project.

1.02 WORK BY OTHERS

- A. The Owner, utilities, and others may be working within the project area while the Work is in progress. If so, the Contractor shall schedule its work in conjunction with these other organizations to minimize interference with one or any of them.

1.03 RESPONSIBILITY OF CONTRACTOR

- A. If any part of the Work depends for proper execution or results upon the work of others, the Contractor shall inspect and promptly report to the Owner any apparent discrepancies or defects in such work of others that render it unsuitable for proper execution and results. Failure of the Contractor to so inspect and report shall constitute an acceptance of the work of others as fit and proper except for defects which may develop in the work of others after execution of the Work by the Contractor.

1.04 PROJECT COORDINATION

- A. The Contractor shall be responsible for the coordination of all Work performed under these Contract Documents; including scheduling of all Work, delivery of equipment and materials, establishing the Work sequence, and completion of the Work in accordance with the construction schedule and the specified Time for Completion.
- B. The Contractor shall be responsible for the division and coordination of all work performed by Subcontractors. Contracts between the Contractor and Subcontractors shall completely describe the work to be performed by each Subcontractor, and the division of work between trades or crafts will be solely a matter for agreement between the Contractor and its employees or Subcontractors. Based on the construction schedule prepared in accordance with the Contract Documents, the Contractor shall obtain from each of its subcontractors a similar schedule and shall be responsible for all parties maintaining these schedules, or for coordinating required modifications.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 PROGRESS MEETINGS

- A. The Owner shall schedule and hold regular progress meetings at least once each week and at other times as required by the Owner, or as required by progress of the Work.

- B. The purpose of the meetings will be to review the progress of the Work, maintain coordination of efforts, discuss changes in scheduling, and resolve other problems that may develop. The Contractor's superintendent and the Owner or their designated representatives shall attend the meetings. The Owner or the Contractor may request attendance by representatives of the Contractor's suppliers, manufacturers, and other subcontractors.
- C. The Owner shall preside at the meetings and provide for keeping and distribution of the minutes.
- D. Other meetings may be held to discuss matters relative to the Work and its performance at the request of the Contractor or the Owner.

3.02 COORDINATION WITH OTHER CONTRACTORS

- A. The Contractor shall inform the Owner and all other parties with an interest in this Project concerning its construction schedule and shall coordinate its Work with that performed by others. The Contractor shall make all necessary arrangements concerning the timing, methods, and division of work required by any connections between this Work and other work to be performed by others.
- B. It shall be the duty of the Contractor of this project to contact the contractors of any other adjacent projects under construction and to coordinate the work to avoid any delays or inconvenience to any project. The Contractor's attention is directed to the fact that other contractors may be working in the areas where work under this Contract is being performed.
- C. The Contractor shall accept the risk of all delays in the delivery of equipment or work by other contractors in connection with the Work. In the event the Contractor is delayed in the prosecution of its Work by such circumstances, it shall have no claim for damages or Contract adjustment other than an extension of time or the waiving of liquidated damages.

3.03 RELATIONS WITH OTHER CONTRACTORS

- A. The Contractor shall cooperate with all other contractors who may be performing work on behalf of the Owner and workers who may be employed by the Owner on any work in the vicinity of the Work to be done under this Contract, and it shall so conduct its operations so as to interfere to the least possible extent with the work of such contractors or workers. The Contractor shall promptly make good, at its own expense, any injury or damage that may be sustained by other contractors or employees of the Owner, as a result of actions or lack of action by the Contractor. Any difference or conflict, which may arise between the Contractor and other contractors or between the Contractor and workers of the Owner in regard to their work, shall be adjusted and determined by the Owner. If the Work of the Contractor is delayed because by any acts or omissions by any other contractor, the Contractor shall have no claim against the Owner on that account other than an extension of time.
- B. Whenever there is interference with work under other contracts, the Owner shall decide the manner in which the work shall proceed under each contract.

3.04 EXISTING STRUCTURES

- A. The dimensions and elevations of existing structures and locations of existing foundations, pipelines, conduits, cables, and equipment indicated on the Drawings were taken for the most part from the Owner's and local agency records and are not guaranteed for accuracy.

- B. It shall be the responsibility of the Contractor to check all dimensions and elevations of existing structures, foundations, pipelines, conduits, cables, equipment, or other existing items, both above and below ground, affected by or affecting the Work under this Contract, prior to the start of construction or the ordering of materials and equipment affected thereby.
- C. The Contractor shall be solely responsible for determining the cost of all removal and salvage operations. Any delay or extra expense to the Contractor due to encountering construction, piping, or equipment not shown or in locations different from those indicated on the Drawings shall not constitute a claim for extra work, additional payment, or damages.

3.05 SANTA ANA RIVER FLOWS

- A. The work includes construction within the live low-flow channel, overbanks and floodplain of the Santa Ana River. Flow in the Santa Ana River will be continuous throughout the duration of the project and the Contractor will be responsible to protect the life, safety, work, equipment and materials during the project.
- B. The Owner has no control over the amount of flow, changes in flow rate, timing of flow rate changes or other characteristics of the Santa Ana River. It will be the Contractor's sole responsibility to keep aware of changing conditions in the river and react accordingly.

END OF SECTION

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SECTION 01046

CONTROL OF WORK

PART 1 GENERAL

1.01 PRIVATE LAND

- A. The Contractor shall not enter or occupy private land outside of easements and designated work areas, except by permission of the land owner.

1.02 HABITAT FEATURE LOCATIONS

- A. The habitat features shall be located substantially as indicated on the Drawings, but the Owner reserves the right to adjust the location of the structure(s) to best fit the changing riverbed and low flow channel.

1.03 OPEN EXCAVATIONS

- A. All open excavations shall be adequately safeguarded by providing temporary barricades, caution signs, lights and other means to prevent accidents to persons and damage to property. The Contractor shall, at his/her own expense, provide suitable and safe bridges and other crossings for accommodating travel by pedestrians and workmen. Bridges provided for access during construction shall be removed when no longer required. The length or size of excavation will be controlled by the particular surrounding conditions, but shall always be confined to the limits prescribed by the Owner. The maximum amount of open trench shall not exceed 300 feet or that which can be backfilled in one day whichever is less. If the excavation becomes a hazard, or if it excessively restricts traffic at any point, the Owner may require special construction procedures, such as limiting the length of the open trench further, controlling the location of stacking excavated material and requiring that the trench shall not remain open overnight.
- B. The Contractor shall take precautions to prevent injury to the public due to open trenches. All trenches, excavated material, equipment, or other obstacles which could be dangerous to the public shall be well lighted at night.

1.04 POTHoles

- A. Potholes for the purpose of locating underground utilities or structures in advance of the construction shall be excavated and backfilled and compacted by the Contractor. Potholes shall be backfilled immediately after their purpose has been satisfied and the surface restored and maintained in a manner satisfactory to the Owner, utility owner and property owner.

1.05 MAINTENANCE OF TRAFFIC

- A. Unless permission to close a street is received in writing from the proper authority, all material shall be placed so that vehicular and pedestrian traffic may be maintained at all times. If the Contractor's operations cause traffic hazards, he/she shall repair the road surface, provide temporary ways, erect wheel guards or fences, or take other measures for safety satisfactory to the Owner.
- B. Detours around construction will be subject to the approval of the Owner. Where detours are permitted, the Contractor shall provide all necessary barricades and signs as required to divert the

flow of traffic. While traffic is detoured, the Contractor shall expedite construction operations. Periods when traffic is being detoured will be strictly controlled by the Owner. Traffic control plans must be approved by the appropriate agency, if required.

- C. The Contractor shall take precautions to prevent injury to the public due to open trenches. Night watchmen may be required where special hazards exist, or police protection provided for traffic while work is in progress. The Contractor shall be fully responsible for damage or injuries whether or not police protection has been provided.
- D. See Section 01575 for additional requirements.

1.06 CARE AND PROTECTION OF PROPERTY

- A. The Contractor shall be responsible for the preservation of all public and private property and shall use every precaution necessary to prevent damage thereto. If any direct or indirect damage is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work on the part of the Contractor, such property shall be restored by the Contractor, at his/her expense, to a condition similar or equal to that existing before the damage was done, or he/she shall make good the damage in other manner acceptable to the Owner.

1.07 NOISE CONTROL

- A. Make every effort to minimize noises caused by the construction operations. Equipment shall be equipped with silencers or mufflers designed to operate with the least possible noise in compliance with Federal and State OSHA regulations. The Contractor shall meet all city and county noise ordinances.

1.08 PROTECTION AND RELOCATION OF EXISTING STRUCTURES AND UTILITIES

- A. The Contractor shall assume full responsibility for the protection of all buildings, structures, and utilities, public or private, including poles, signs, services to buildings, utilities in the street, gas pipes, water pipes, hydrants, sewers, drains and electric and telephone cables, whether or not they are shown on the Drawings. The Contractor shall carefully support and protect all such structures and utilities from injury of any kind. Any damages or claims resulting from the Contractor's operations shall be repaired by him/her at his/her expense.
- B. Assistance will be given the Contractor in determining the location of existing services. The Contractor, however, shall bear full responsibility for obtaining all locations of underground structures and utilities (including, but not limited to, existing water services, drain lines and sewers). Services to buildings shall be maintained, and all costs or charges resulting from damage thereto shall be paid by the Contractor.
- C. Protection and temporary removal and replacement of existing utilities and structures as described in this Section shall be a part of the work under the Contract and all costs in connection therewith shall be included in the Total Price Bid in the Bid Form.
- D. If, in the opinion of the Owner, permanent relocation of a utility owned by Santa Ana Watershed Project Authority or any other public agency is required, he/she will notify the public agency, in writing, to perform the work. Work so ordered will be paid for by the public agency, if applicable, or as extra work under Section 11 of the General Conditions. If relocation of a privately owned utility is required, the Owner will notify the Utility to perform the work as expeditiously as possible. The Contractor shall fully cooperate with the public agency and Utility. The Contractor

shall notify all utility companies in writing at least 48 hours (excluding Saturdays, Sundays and Legal holidays) before excavating in any public way. Contractor shall also notify Underground Services Alert-USA, telephone 1-800-227-2600 or 811 at least 72 hours prior to start of work.

- E. The Contractor shall coordinate the removal and replacement of traffic loops and signals, if required for the performance of the work, at no additional cost to the Owner.
- F. Tie-ins for utilities and relocation of utilities shall be performed without exceeding the maximum shutdowns acceptable to the Owner. The Contractor shall not commence a planned shutdown without having all equipment and labor available on site. The Contractor shall continue working on a round the clock basis until service is restored.

1.09 WATER FOR CONSTRUCTION PURPOSES

- A. In locations where public water supply is available, the Contractor may be allowed to use water for construction purposes only. All costs for obtaining and using water for construction purposes from any sources shall be borne by the Contractor, unless otherwise specified.
- B. The express approval of the Owner and proper permits, backflow preventers and meters shall be obtained before water is used. Hydrants shall only be operated under the supervision of the water supplier's personnel or other supplier's approval.

1.10 MAINTENANCE OF FLOW

- A. The Contractor shall at his/her own cost, provide for the flow of sewers, drains and water courses interrupted during the progress of the Work, and shall immediately cart away and remove all offensive matter. The entire procedure of maintaining existing flow shall be fully discussed with the Owner well in advance of the interruption of any flow.

1.11 COOPERATION WITH OTHER CONTRACTORS

- A. All firms or persons authorized to perform any work under this Contract shall cooperate with the Owner and his/her other Contractors and shall assist in incorporating the work of other contractors where necessary or required and as specified in Section 01040.

1.12 CLEANUP AND DISPOSAL OF EXCESS MATERIAL

- A. During the course of the work, the Contractor shall keep the site of his/her operations in a clean and neat condition. He/she shall dispose of all residues resulting from the construction work and, at the conclusion of the work; he/she shall remove and haul away any surplus excavation, broken pavement, lumber, equipment, temporary structures and any other refuse remaining from the construction operations and shall leave the entire site of the Work in a neat and orderly condition.
- B. In order to prevent environmental pollution arising from the construction activities related to the performance of this Contract, the Contractor and his/her subcontractors shall comply with all applicable Federal, State and local laws and regulations concerning waste material disposal, as well as the specific requirements stated in this Section and elsewhere in the Specifications.
- C. The Contractor is advised that the disposal of excess excavated material in wetlands, stream corridors and flood plains is strictly prohibited even if the permission of the property owner is obtained. Any violation of this restriction by the Contractor or any person or firm employed by

him/her, will be brought to the immediate attention of the responsible regulatory agencies, with a request that appropriate action be taken against the offending parties. Therefore, the Contractor will be required to remove the fill at his/her own expense and restore the area impacted in addition to paying any fines or penalties associated with such violation.

1.13 RESTORATION

- A. The Contractor is required to restore all areas to conditions that existed prior to construction or to a condition that is better than the pre-construction condition as determined by the Owner.
- B. Existing public and private driveways and sidewalks disturbed by the construction shall be replaced to the limits, thicknesses, materials and surface finishes existing prior to construction.
- C. Existing signs, lampposts, mailboxes, fences, or other facilities which may be damaged by the Contractor or removed by the Contractor during the course of the work shall be reinstalled in a vertical position at the same location from which they were removed. Damaged items shall be replaced with an item equal to or better than the damaged items. A concrete anchor shall be provided as necessary, at no additional cost, to ensure a rigid alignment. Care shall be exercised in the reinstallation of all items to prevent damage to the newly installed work.
- D. Existing concrete, bituminous, timber or granite curbing shall be protected. If necessary, curbing shall be removed and replaced after backfilling. Curbing which is damaged during construction shall be replaced with curbing of equal quality and dimension at the Contractor's expense. Joints between sections shall be pointed as required after resetting.

1.14 ARCHAEOLOGICAL AND PALEONTOLOGICAL DISCOVERIES

- A. An Archaeologist/Paleontologist may visit the site at various times during the Work. If a discovery is made of items of paleontological or archaeological interest, the Contractor shall immediately cease work in the area of discovery and shall not continue until approved by the Owner. Discoveries which may be encountered include, but are not limited to: dwelling sites, stone implements or other artifacts, animal bones, human bones and fossils considered having archaeological interest. The Contractor shall be entitled to an extension of time and compensation in accordance with the General Conditions for delays resulting from archaeological or paleontological discoveries. The Owner will notify the State Office of Historic Preservation of any findings.

1.15 SPILL RESPONSE PLAN

- A. The Contractor shall prepare and implement, if necessary, a spill response plan. The spill response plan shall be submitted to the Owner for approval at least 7 days before any construction activity begins. The spill response plan shall outline all the activities necessary to contain any hazardous material spills which occur during construction, as well as any clean-up activities. The spill response plan shall also include all contact information as well as a communication protocol in case of a spill. The Owner shall be notified immediately in case a spill occurs during the course of any Contractor activities on the project.

END OF SECTION

SECTION 01050

FIELD ENGINEERING

PART 1 GENERAL

1.01 GRADES, LINES AND LEVELS

- A. The Contractor shall employ, at his own expense, a competent civil engineer or land surveyor who shall stake out the structure locations based on the pothole locations, all grade changes, and at all angles and appurtenances and other parts of the work, establish levels and erect the permanent batter boards or laser lines. From time to time, the above-mentioned civil engineer or land surveyor shall verify by instrument all reference marks and the Contractor shall be responsible for the accuracy of all lines and levels and of the work as built in accordance therewith.
- B. The Owner may check the lines, elevations, reference marks, batter boards, etc., set by the Contractor and the Contractor shall correct any errors disclosed by such check. Such a check shall not be considered as approval of the Contractor's work and shall not relieve the Contractor of the responsibility for accurate construction of the entire work. The Contractor shall furnish the services of a person to help the Owner in checking lines and grades.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01170

SPECIAL PROVISIONS

PART 1 GENERAL

1.01 GENERAL OBLIGATIONS OF THE CONTRACTOR

- A. General obligations of the Contractor shall be as set forth in the Contract Documents. Unless special payment is specifically provided in the payment paragraphs of the specifications, all incidental work and expense in connection with the completion of work under the Contract will be considered a subsidiary obligation of the Contractor and all such costs shall be included in the appropriate items in the Bid Form in connection with which the costs are incurred.
- B. Contractor will provide and maintain competent and adequate engineering supervision at the construction site to ensure that the complete work conforms with the approved plans and specifications and will furnish progressive reports and such other information as may be required by the assistance awarding agency or State.
- C. Contractor will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
- D. Contractor will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964...
- E. Contractor will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333) regarding labor standards for federally-assisted construction sub agreements.

1.02 SITE INVESTIGATION

- A. The Contractor shall satisfy himself/herself as to the conditions existing within the project area, the type of equipment required to perform the work, the character, quality and quantity of the subsurface materials to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, as well as from information presented by the Drawings and Specifications. Any failure of the Contractor to acquaint himself/herself with the available information will not relieve him/her from the responsibility for estimating properly the difficulty or cost of successfully performing the work. The Owner assumes no responsibility for any conclusions or interpretation made by the Contractor on the basis of the information made available by the Owner.

1.03 COORDINATION WITH ADJACENT PROPERTY OWNERS - GENERAL

- A. The Contractor shall be responsible for obtaining all necessary construction permits and payment of all associated fees, unless otherwise provided by the Owner.
- B. All construction activities shall be limited to the specified work area.

- C. The Contractor shall protect all materials and equipment on site. The Contractor shall assume all responsibility for replacement of items damaged, destroyed or stolen from the sites.
- D. Supply the Local Police Department, Fire Department, School Department, and the City Public Works Departments with the following information.
 - 1. A list of streets and intersections where work will be in progress to be supplied at intervals as required by the Owner.
 - 2. Areas where approved detours are in effect.
 - 3. Immediate notification of any drain, gas or water main breaks.
- E. Reimburse the Owner for the actual cost of the services of Owner Personnel required during other than regular working hours. The emergency contact number for the Owner during non-business hours is (951) 324-8680.
- F. Maintain the site and provide the Owner with an address where the Contractor may be reached when not at the site. Upon notification by the Owner or the Engineer, promptly make such repairs as necessary to the site.

1.04 PUBLIC UTILITIES

- A. Notify Underground Services Alert at 1-800-227-2600 or 811 at least 72 hours before digging, trenching, blasting, demolishing, boring, backfilling, grading, landscaping or other earth moving operations in any public ways, rights of way and easements.
- B. Coordinate directly with utility companies as required. Provide the Utility Companies with a schedule of the activities in areas where the utilities exist.
- C. Immediately notify utility companies of any damage to their utilities resulting from construction operations.

1.05 ASBESTOS ABATEMENT

- A. Contractor shall furnish all labor, materials, equipment, permits, and incidentals and perform the removal of asbestos-containing materials as identified below. Unless specified or until proven otherwise, the Contractor shall assume that all material, for which removal is specified, contains asbestos and shall be handled and disposed of as specified herein. Compliance with all applicable Federal, State, and local regulations and the use of the best available technology, procedures, and methods for preparation, execution, cleanup, disposal, and safety are absolutely required. This compliance is the sole responsibility of the Contractor. This shall be included in the Contractor's bid and no additional compensation shall be allowed for asbestos abatement.
- B. The Contractor shall inform itself of the conditions for the project and is responsible for verifying the quantities and location of all work to be performed. Failure to do so shall not relieve the Contractor of its obligation to furnish all materials and labor necessary to carry out the provisions of the Contract. The work requiring asbestos abatement shall include, but not be limited to the following:
 - 1. No asbestos-containing materials are known to exist on this site by the Owner, and no handling of asbestos-containing materials are included in the work.

1.06 PROGRESS SCHEDULE

- A. Submit a schedule before starting any work.
- B. Review the progress schedule with the Owner periodically. Such review shall be made on a weekly basis or more frequently as required by the Owner. The progress schedule shall be updated as directed by the Owner.

1.07 PROVISIONS FOR CONTROL OF EROSION

- A. Take sufficient precautions during construction to minimize the run-off of polluting substances such as silt, clay, fuels, oils, bitumens and calcium chloride into the supplies and surface waters of the State. Special precautions shall be taken in the use of construction equipment to prevent operations which promote erosion.
- B. Disposal of drainage shall be in an area approved by the Owner. Prevent the flow or seepage of drainage back into the construction drainage area. Drainage shall not be disposed of until silt and other sedimentary materials have been removed. Particular care shall be taken to prevent the discharge of unsuitable drainage to a water supply or surface water body or storm drain.
- C. The Contractor shall use the California Storm Water Best Management Practice Handbook for Construction Activity (most recent edition), as a reference in selecting appropriate erosion control measures for the sites. Materials used shall be in conformance with this handbook and the Storm Water Pollution Prevention Plan as specified in section 01565 if required for the project (No SWPPP required for the Santa Ana Sucker Habitat Protection and Beneficial Use Enhancement Project).
- D. As a minimum, the following shall apply:
 - 1. Wheel cleaning and track-out devices will be installed and maintained by the Contractor at the Source Material Site and Santa Ana River Site. The Contractor will provide street sweeping as needed to maintain the public streets in the vicinity of the site access points.
 - 2. Straw wattles will be installed by the Contractor at the Source Material Site and Santa Ana River Site. Other methods, which reduce the sediment content to an equal or greater degree, may be used as approved by the Owner.
 - 3. Drainage leaving the site shall flow to watercourses in such a manner to prevent erosion.

1.08 PERMITS

- A. Obtain all necessary permits for proper execution of certain phases of the project. Fill out all forms and furnish all drawings required to obtain the permits. A copy of the approved permit shall be submitted to the Owner. All fees associated with these permits shall be paid by the Contractor as part of the project, unless otherwise noted in writing by the Owner. Work shall not commence on any phase of the work requiring a permit until the permit is obtained. Where the Permit is indicated as Owner obtained, the contractor shall only be responsible for applicable fees.

1.09 ENVIRONMENTAL & CEQA COMPLIANCE

- A. The Contractor will abide by the requirements of the project specific Initial Study/Mitigated Negative Declaration (ISMND) and implement the mitigation measures applicable to the Contractor's work. The Contractor shall review and fully familiarize him/her-self with the ISMND prior to submitting a bid for the Project. See Appendix A.

1.10 OWNER ACQUIRED PERMITS

- A. The Contractor will abide by the requirements of the project specific permits acquired by the Owner. The Contractor shall review and fully familiarize him/her-self with the permit conditions prior to starting construction on the Project.

END OF SECTION

SECTION 01300

SUBMITTALS

PART 1 GENERAL

1.01 DESCRIPTION OF REQUIREMENTS

- A. This Section specifies the general methods and requirements of submissions applicable to the following work-related submittals: Shop Drawings, Product Data, Samples, Construction Photographs, Construction or Submittal Schedules. Additional general submission requirements are contained in Article 6.17 of the General Conditions. Detailed submittal requirements are specified in the technical sections.
- B. All submittals shall be clearly identified by reference to Specification Section Number and Paragraph and Drawing Number or Detail as applicable. Submittals shall be clear and legible and of sufficient size for presentation of data.

1.02 SHOP DRAWINGS, PRODUCT DATA, SAMPLES

- A. Shop Drawings
 - 1. Shop drawings as specified in the General Conditions, and as specified in individual Sections include, but are not necessarily limited to, custom-prepared data such as fabrication and erection/installation (working) drawings, scheduled information, setting diagrams, actual shop work manufacturing instructions, custom templates, special wiring diagrams, coordination drawings, individual system or equipment inspection and test reports including performance curves and certifications, as applicable to the work.
 - 2. All shop drawings submitted by subcontractors shall be sent directly to the Contractor for checking. The Contractor shall be responsible for their submission at the proper time so as to prevent delays in delivery of materials.
 - 3. The Contractor shall check all subcontractors' shop drawings regarding measurements, size of members, materials and details to make sure that they conform to the intent of the Drawings and related Sections. Return shop drawings found to be inaccurate or otherwise in error to the subcontractors for correction before submission thereof.
 - 4. All details on shop drawings shall show clearly the relation of the various parts to the main members and lines of the structure; where correct fabrication of the work depends upon field measurements; such measurements shall be made and noted on the drawings before being submitted.
 - 5. Submittals for equipment specified under Division 15 shall include a listing of all installations where identical or similar equipment has been installed and been in operation for a period of at least one year.

B. Product Data

1. Product data as specified in individual Sections include, but are not necessarily limited to, standard prepared data for manufactured products (sometimes referred to as catalog data), such as the manufacturer's product specification and installation instructions, availability of colors and patterns, manufacturer's printed statements of compliances and applicability, roughing-in diagrams and templates, catalog cuts, product photographs, standard wiring diagrams, printed performance curves and operational-range diagrams, production or quality control inspection and test reports and certifications, mill reports, product operating and maintenance instructions and recommended spare-parts listing and printed product warranties, as applicable to the work.

C. Samples

1. Samples specified in individual Sections include, but are not necessarily limited to, physical examples of the work such as sections of manufactured or fabricated work, small cuts or containers of materials, complete units of repetitively-used products, color/texture/pattern swatches and range sets, specimens for coordination of visual effect, graphic symbols and units of work to be used by the Owner for independent inspection and testing, as applicable to the work.

1.03 CONTRACTOR'S RESPONSIBILITIES

- A. The Contractor shall review shop drawings, product data and samples, including those by subcontractors, prior to submission to determine and verify the following:

1. Field measurements
2. Field construction criteria
3. Catalog numbers and similar data
4. Conformance with related Sections

- B. Each shop drawing, sample and product data submitted by the Contractor shall have affixed to it the following Certification Statement including the Contractor's Company name and signed by the Contractor:

"Certification Statement: by this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data, and I have checked and coordinated each item with other applicable approved shop drawings and all Contract requirements."

Shop drawings and product data sheets 11-in x 17-in and smaller shall be bound together in an orderly fashion and bear the above Certification Statement on the cover sheet. The cover sheet shall fully describe the packaged data and include a listing of all items within the package. Provide to the Resident Project Representative a copy of each transmittal sheet for shop drawings, product data and samples at the time of submittal to the Owner.

- C. The Contractor shall utilize a 10-character submittal identification numbering system in the following manner:
1. The first character shall be a D, S, P, M, or R, which represents Shop/Working Drawing and other Product Data (D), Sample (S), Preliminary Submittal (P), Operating/Maintenance Manual (M), or Request for Information (R).
 2. The next five digits shall be the applicable Specification Section Number.
 3. The next three digits shall be the numbers 001 to 999 to sequentially number each initial separate item or drawing submitted under each specific Section Number.
 4. The last character shall be a letter, A to Z, indicating the submission, or resubmission of the same Drawing, i.e., "A=1st submission, B=2nd submission, C=3rd submission, etc. A typical submittal number would be as follows:

D-03300-008-B

D. = Shop Drawing
03300 = Section for Concrete
008 = The eighth initial submittal under this section
B. = The second submission (first resubmission) of that particular shop drawing

- D. Notify the Owner in writing, at the time of submittal, of any deviations in the submittals from the requirements of the Contract Documents.
- E. The review and approval of shop drawings, samples or product data by the Owner shall not relieve the Contractor from the responsibility for the fulfillment of the terms of the Contract. All risks of error and omission are assumed by the Contractor and the Owner will have no responsibility therefore.
- F. No portion of the work requiring a shop drawing, sample, or product data shall be started nor shall any materials be fabricated or installed prior to the approval or qualified approval of such item. Fabrication performed, materials purchased or on-site construction accomplished which does not conform to approved shop drawings and data shall be at the Contractor's risk. The Owner will not be liable for any expense or delay due to corrections or remedies required to accomplish conformity.
- G. Project work, materials, fabrication, and installation shall conform with approved shop drawings, applicable samples, and product data.
- H. The minimum required submittals include;
- 1) Construction Schedule
 - 2) Schedule of Values
 - 3) Traffic and Site Access Plan
 - 4) Imported Material Gradation Curves (Not Required if Source Material Sites are Used)
 - 5) Sheeting, Shoring and Bracing Plan
 - 6) River Flow Management & Dewatering Plan
 - 7) Erosion Control and BMP Plan
 - 8) Spill Prevention and Response Plan

1.04 SUBMISSION REQUIREMENTS

- A. Make submittals promptly in accordance with approved schedule and in such sequence as to cause no delay in the Work or in the work of any other contractor.
- B. Each submittal, appropriately coded, will be returned within 4 calendar days following receipt of submittal by the Owner.
- C. Number of submittals required:
 - 1. Shop Drawings as defined in Paragraph 1.02A: Electronic PDF and two hardcopies.
 - 2. Product Data as defined in Paragraph 1.02A: Electronic PDF and two hardcopies.
 - 3. Samples: Submit the number stated in the respective Sections or as required by the Owner (not to exceed 5 different samples).
 - 4. All other submittals will be delivered in Electronic PDF format.
- D. Submittals shall contain:
 - 1. The date of submission and the dates of any previous submissions.
 - 2. The Project title and number.
 - 3. Contractor identification.
 - 4. The names of:
 - a. Contractor
 - b. Supplier
 - c. Manufacturer
 - 5. Identification of the product, with the section number, page and paragraph(s).
 - 6. Field dimensions, clearly identified as such.
 - 7. Relation to adjacent or critical features of the work or materials.
 - 8. Applicable standards, such as ASTM or Federal Standards numbers.
 - 9. Identification of deviations from Contract Documents.
 - 10. Identification of revisions on re-submittals.
 - 11. A blank space suitably sized for Contractor and Owner stamps.
 - 12. Where calculations are required to be submitted by the Contractor, the calculations shall have been checked by a qualified individual other than the preparer. The submitted calculations shall clearly show the names of the preparer and of the checker.

1.05 REVIEW OF SHOP DRAWINGS, PRODUCT DATA, WORKING DRAWINGS AND SAMPLES

- A. The review of shop drawings, data and samples will be for general conformance with the design concept and Contract Documents. They shall not be construed:
 - 1. As permitting any departure from the Contract requirements;
 - 2. As relieving the Contractor of responsibility for any errors, including details, dimensions, and materials;
 - 3. As approving departures from details furnished by the Owner, except as otherwise provided herein.
- B. The Contractor remains responsible for details and accuracy, for coordinating the work with all other associated work and trades, for selecting fabrication processes, for techniques of assembly, and for performing work in a safe manner.
- C. If the shop drawings, data or samples as submitted describe variations and show a departure from the Contract requirements which Owner finds to be in its own interest and to be so minor as not to involve a change in Contract Price or Contract Time, the Owner may return the reviewed drawings without noting an exception.
- D. Submittals will be returned to the Contractor under one of the following codes.
 - Code 1 - "APPROVED" is assigned when there are no notations or comments on the submittal. When returned under this code the Contractor may release the equipment and/or material for manufacture.
 - Code 2 - "APPROVED AS NOTED". This code is assigned when a confirmation of the notations and comments IS NOT required by the Contractor. The Contractor may release the equipment or material for manufacture; however, all notations and comments must be incorporated into the final product.
 - Code 3 - "APPROVED AS NOTED/CONFIRM". This combination of codes is assigned when a confirmation of the notations and comments IS required by the Contractor. The Contractor may, at his own risk, release the equipment or material for manufacture; however, all notations and comments must be incorporated into the final product. This confirmation shall specifically address each omission and nonconforming item that was noted. Confirmation is to be received by the Owner within 15 calendar days of the date of the Owner's transmittal requiring the confirmation.
 - Code 4 - "APPROVED AS NOTED/RESUBMIT". This combination of codes is assigned when notations and comments are extensive enough to require a re-submittal of the package. This re-submittal is to address all comments, omissions and non-conforming items that were noted. Re-submittal is to be received by the Owner within 15 calendar days of the date of the Owner's transmittal requiring the re-submittal.
 - Code 5 - "NOT APPROVED" is assigned when the submittal does not meet the intent of the Contract Documents. The Contractor must resubmit the entire package revised to

bring the submittal into conformance. It may be necessary to resubmit using a different manufacturer/vendor to meet the Contract Documents.

Code 6 - "COMMENTS ATTACHED" is assigned where there are comments attached to the returned submittal, which provide additional data to aid the Contractor.

Code 7 - "RECEIPT ACKNOWLEDGED" - This code is assigned to acknowledge receipt of a submittal that is not subject to the Owner's review and approval; and, is being filed for informational purposes only. This code is generally used in acknowledging receipt of *means and methods of construction* work plans, field conformance test reports, and Health and Safety plans.

Codes 1 through 5 designate the status of the reviewed submittal with Code 6 showing there has been an attachment of additional data.

- E. Re-submittals will be handled in the same manner as first submittals. On re-submittals the Contractor shall identify all revisions made to the submittals, either in writing on the letter of transmittal or on the shop drawings by use of revision triangles or other similar methods. The re-submittal shall clearly respond to each comment made by the Owner on the previous submission. Additionally, the Contractor shall direct specific attention to any revisions made other than the corrections requested by the Owner on previous submissions.
- F. Partial submittals may not be reviewed. The Owner will be the only judge as to the completeness of a submittal. Submittals not complete will be returned to the Contractor and will be considered "Not Approved" until resubmitted. The Owner may at his option provide a list or mark the submittal directing the Contractor to the areas that are incomplete.
- G. Repetitive Review
 - 1. Shop drawings and other submittals will be reviewed no more than twice at the Owner's expense. All subsequent reviews will be performed at times convenient to the Owner and at the Contractor's expense, based on the Owner's labor rates. The Contractor shall reimburse the Owner for all internal fees. Submittals are required until approved.
 - 2. Any need for more than one resubmission, or any other delay in obtaining Owner's review of submittals, will not entitle Contractor to extension of the Contract Time.
- H. If the Contractor considers any correction indicated on the shop drawings to constitute a change to the Contract Documents, the Contractor shall give written notice thereof to the Owner at least 7 working days prior to release for manufacture.
- I. When the shop drawings have been completed to the satisfaction of the Owner, the Contractor shall carry out the construction in accordance therewith and shall make no further changes therein except upon written instructions from the Owner.

1.06 DISTRIBUTION

- A. Distribute reproductions of approved shop drawings and copies of approved product data and samples, where required, to the job site file and elsewhere as directed by the Owner. Number of copies shall be as directed by the Owner but shall not exceed six.

1.08 CONSTRUCTION PHOTOGRAPHS

- A. The Contractor shall provide an average of 8 color photographs per day made of the work during its progress and 20 color photographs of the completed work/facilities. The photographs shall be of such views and taken at such times as the Owner directs and/or to clearly show critical milestones in the work and clearly depict the quality of the work.
- B. All photographic work shall be done by a qualified experienced photographer acceptable to the Owner. Each photograph will be supplied to the owner in an electronic format acceptable to the Owner.
- C. At the completion of the project the Contractor shall submit a complete photo history of the project on a flash/USB drive with each picture titled to indicate the work it represents.
- D. Each electronic photograph shall be titled to define the work it represents. A sample title is SAS_PBUE1_G_Date:
 - 1. SAS = Santa Ana Sucker Habitat Project
 - 2. PBUE1 = Protection and Beneficial Use Enhancement Project 1
 - 3. G = Groin, F = Base or Foundation, A = Apron, B = Boulder, CG = Clear & Grub, etc...
 - 4. ##_##_20## = Date picture was taken Month_Day_Year ex. 05_21_2018

1.09 SCHEDULES

- A. Provide all schedules required by the General Conditions and in the Technical Project Specifications.

1.10 PROFESSIONAL ENGINEER (P.E.) CERTIFICATION FORM

- A. If specifically required in other related Sections of these Specifications, submit a P.E. Certification for each item required, in the form attached to this Section, completely filled in and stamped.

1.11 GENERAL PROCEDURES FOR SUBMITTALS

- A. Coordination of Submittal Times: Prepare and transmit each submittal sufficiently in advance of performing the related work or other applicable activities, or within the time specified in the individual work of other related Sections, so that the installation will not be delayed by processing times including disapproval and re-submittal (if required), coordination with other submittals, testing, purchasing, fabrication, delivery and similar sequenced activities. No extension of time will be authorized because of the Contractor's failure to transmit submittals sufficiently in advance of the Work.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

P.E. CERTIFICATION FORM

The undersigned hereby certifies that he/she is a professional engineer registered in the State of California and that he/she has been employed by _____ to design

(Name of Contractor)

(Insert P.E. Responsibilities)

in accordance with Section _____ for the

(Name of Project)

The undersigned further certifies that he/she has performed the design of the _____

_____, that said design is in conformance
(Name of Project)

with all applicable local, state and federal codes, rules, and regulations, and that his/her signature and P.E. stamp have been affixed to all calculations and drawings used in, and resulting from, the design.

The undersigned hereby agrees to make all original design drawings and calculations available to the

(Insert Name of Owner)

or Owner's representative within seven days following written request therefore by the Owner.

P.E. Name

Contractor's Name

Signature

Signature

Address

Title

Address

END OF SECTION

SECTION 01301

SCHEDULE OF VALUES

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Submit a Schedule of Values allocated to the various portions of the work, within seven (7) days after the effective date of the Agreement.
- B. Upon request of the Owner, support the values with data, which will substantiate their correctness.
- C. The accepted Schedule of Values shall be used as the basis for the Contractor's Applications for Payment.

1.02 FORM AND CONTENT OF SCHEDULE OF VALUES

- A. Type schedule on an 8-1/2-in by 11-in white paper. Contractor's standard forms and automated printout will be considered for approval by the Owner upon Contractor's request. Identify schedule with:
 - 1. Title of Project and location.
 - 2. Owner and Project number.
 - 3. Name and Address of Contractor.
 - 4. Contract designation.
 - 5. Date of submission.
- B. Schedule shall list the installed value of the component parts of the work in sufficient detail to serve as a basis for computing values for progress payments during construction or as otherwise required by the measure and payment requirements of this contract.
- C. Identify each line item with the number and title of the respective Section.
- D. For each major line item list sub-values of major products or operations under the item.
- E. For the various portions of the work:
 - 1. Each item shall include a directly proportional amount of the Contractor's overhead and profit.
 - 2. For items on which progress payments will be requested for stored materials, break down the value into:
 - a. The cost of the materials, delivered and unloaded, with taxes paid. Paid invoices are required for materials upon request by the Owner.

- b. The total installed value.

1.03 SUBSCHEDULE OF UNIT MATERIAL VALUES

- A. Submit a sub-schedule of unit costs and quantities for:
 - 1. Products on which progress payments will be requested for stored products.
- B. The form of submittal shall parallel that of the Schedule of Values, with each item identified the same as the line item in the Schedule of Values.
- C. The unit quantity for bulk materials shall include an allowance for normal waste.
- D. The unit values for the materials shall be broken down into:
 - 1. Cost of the material, delivered and unloaded at the site, with taxes paid.
 - 2. Copies of invoices for component material shall be included with the payment request in which the material first appears.
 - 3. Paid invoices shall be provided with the second payment request in which the material appears or no payment shall be allowed and/or may be deleted from the request.
- E. The installed unit value multiplied by the quantity listed shall equal the cost of that item in the Schedule of Values.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01410

CLEANUP AND TESTING

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment and incidentals required to test all new structures, features, pipelines, equipment, and all hydraulic structures and perform job site cleanup during construction prior to placing the facilities into operation.
- B. The Work of this Section includes, but is not limited to the following:
 - 1. Cleanup during construction.
 - 2. Incidental work.

1.02 RELATED WORK NOT INCLUDED

- A. Contract closeout is included in Section 01700.
- B. Operation and maintenance data are included in the General Conditions.

1.03 SUBMITTALS

- A. None

1.04 REFERENCE STANDARDS

- A. None

PART 2 PRODUCTS

2.01 MATERIALS

- A. None

PART 3 EXECUTION

3.01 CLEANUP DURING CONSTRUCTION

- A. The Contractor shall keep the premises, work and storage area(s) clean and free at all times of accumulations of trash, rubbish and other waste materials. The Contractor shall maintain at the job site throughout the entire duration of the Contract a minimum of one metal trash bin with hinged cover(s) for the on-site storage of trash, rubbish and other waste materials prior to off-site disposal. Additional trash bins shall be provided if one bin is not adequate for the volume of trash generated on the job. The trash bin(s) shall be provided by a local commercial trash disposal service and shall be emptied by said service regularly on a weekly basis, or more frequently if needed, or as directed by the Engineer. The on-site storage and off-site disposal of all collected trash, rubbish and other waste materials shall be in strict conformance with local ordinances and laws.

- B. The work areas shall be cleaned of construction debris on a daily basis, or more frequently if conditions require (example, windy days will require that trash be placed in covered receptacles immediately to prevent trash from blowing and leaving the site). Construction debris can be stockpiled in one central location that is acceptable to the Owner. Such stockpiled construction debris shall be removed from the job site and disposed of in a manner in conformance with local laws and ordinances on a weekly basis.
- C. Adequate cleanup of the project work and storage areas will be a condition for recommendation of monthly progress payment applications.
- D. Wastes shall not be buried, burned on-site, or disposed of retention basins, pits, or water courses within or adjacent to the job site.
- E. Waste concrete shall be washed from the transit mix trucks and captured/contained in approved receptacles at one designated location within the project job site, and in a manner acceptable to the Owner. Residual concrete from the wash down area shall be considered construction debris and shall be disposed of accordingly.
- F. Reusable construction materials, such as concrete forms, shall be neatly stacked by the Contractor when not in use.
- G. Tools and small equipment shall be kept in lockable trailer(s) or shed(s).
- H. Contractor shall mechanically street sweep, broom, or otherwise clean pavement areas adjacent to the project job site at the end of each week.

3.02 FINAL CLEANUP

- A. Final cleanup shall be as specified herein and in the General Conditions. The Contractor shall promptly remove from the vicinity of the completed work, all rubbish, trash, unused materials, concrete forms, construction equipment, tools, and temporary structures and facilities used during construction. All surrounding site areas, including the temporary construction trailer, equipment and material storage areas shall be restored to their original state, including grading as required.

3.03 FACTORY ACCEPTANCE TESTS AND DELIVERY INSPECTIONS

- A. Factory acceptance tests shall be performed on materials as specified herein, and shall include tests of items at the place of manufacturer and/or completion of manufacture or assembly, comprising material tests, hydraulic pressure tests, and inspections in accordance with the relevant standards of the industry and more particularly, as detailed in individual clauses of these Specifications, to satisfy the Owner that the items tested and inspected comply with the requirements of this Contract.
- B. Delivery inspections of all items delivered to the site will be made by the Owner in order that the Owner may satisfy himself that such items are in accordance with approved shop drawing product information and sample submittals, are of the specified quality and workmanship and are in good order and condition at the time of delivery. Such inspections do not relieve the Contractor's responsibility for conformance of all items to the requirements of the Contract Documents.

- C. Where specified, both factory and field testing shall be performed. Factory testing shall not take the place of field testing.

3.04 INSTALLATION INSPECTION, FIELD TESTS, ADJUSTMENTS AND OPERATION

- A. At least five (5) days before the date shown in the Contractor's construction schedule for the testing and startup of the equipment to be installed under this Contract, the Contractor shall submit to the Owner copies of the details, procedures and scheduling he proposes to follow for the testing procedures and as specified herein and in the technical specifications.
- B. The procedures shall be divided into two distinct stages: (1) leakage tests; and (2) initial operation and testing.
- C. Before initiating any manufacturer's installation inspections and preparation checkouts, the Contractor shall test all pipes, and hydraulic structures, and other such items for water-tightness in compliance with the requirements set forth herein, or in the applicable sections of the technical specifications and with the following requirements:
 - 1. Leakage tests for completed piping systems and pipelines, including fittings and other appurtenances to be installed in the piping and pipelines as specified in Section 02616. Pipeline thrust blocks shall be installed and cured for the time required to achieve sufficient concrete strength, and backfilling completed before testing.
 - 2. No water shall be introduced into maintenance access structures or pipes, circuits energized, or tests commenced without the approval of the Engineer.

END OF SECTION

SECTION 01415

TESTING AND TESTING LABORATORY SERVICES

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. The Contractor will employ and pay for the services of an Independent Testing Laboratory to perform testing at any time the Owner elects to have materials and equipment tested for conformity with the Contract Documents.
 - 1. Cooperate with the laboratory to facilitate the execution of its required services.
 - 2. Employment of the laboratory shall in no way relieve Contractor's obligations to perform the Work of the Contract.

1.02 RELATED REQUIREMENTS

- A. Conditions of the Contract: Inspections and testing required by laws, ordinances, rules, regulations, orders or approvals of public authorities.
- B. Respective sections of specifications: Certification of products.
- C. Each specification section listed: Laboratory tests required and standards for testing.
- D. Testing Laboratory inspection, sampling and testing is required for but not limited to the following:
 - 1. Crushed aggregate base gradation analysis (CAB)

1.03 LIMITATIONS OF AUTHORITY OF TESTING LABORATORY

- A. Laboratory is not authorized to:
 - 1. Release, revoke, alter or enlarge on requirements of Contract Documents.
 - 2. Approve or accept any portion of the Work.
 - 3. Perform any duties of the Contractor.

1.04 CONTRACTOR'S RESPONSIBILITIES

- A. Cooperate with laboratory personnel; provide access to work, to manufacturer's operations.
- B. Secure and deliver to the laboratory adequate quantities of representational samples of materials proposed to be used and which require testing.
- C. Provide to the laboratory the preliminary design mix proposed to be used for concrete and other material mixes which require control by the testing laboratory.
- D. Materials and equipment used in the performance of work under this Contract are subject to inspection and testing at the point of manufacture or fabrication. Standard specifications for

quality and workmanship are indicated in the Contract Documents. The Owner may require the Contractor to provide statements or certificates from the manufacturers and fabricators that the materials and equipment provided by them are manufactured or fabricated in full accordance with the standard specifications for quality and workmanship indicated in the Contract Documents. All costs of this testing and providing statements and certificates shall be a subsidiary obligation of the Contractor, and no extra charge to the Owner shall be allowed on account of such testing and certification.

E. Furnish incidental labor and facilities:

1. To provide access to work to be tested.
2. To obtain and handle samples at the project site or at the source of the product to be tested.
3. To facilitate inspections and tests.
4. For storage and curing of test samples.

F. Notify laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.

1. When tests or inspections cannot be performed after such notice, cost for laboratory personnel and travel expenses incurred due to Contractor's negligence shall not be transferred to the Owner.

G. Employ and pay for the services of the same or a separate, equally qualified independent testing laboratory to perform additional inspections, sampling and testing required for the Contractor's convenience.

PART 2 PRODUCTS
(NOT USED)

PART 3 EXECUTION
(NOT USED)

END OF SECTION

SECTION 01500

TEMPORARY FACILITIES

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. The Contractor shall make arrangements with the appropriate utility agencies for temporary connections to the utilities. The Contractor is responsible for extending any utility services to the required point of use.
- B. Scheduled Uses: The Contractor shall schedule the implementation and termination of service for each temporary utility or facility subject to approval of the Owner.

1.02 TEMPORARY LIGHT AND POWER

- A. The Contractor shall provide at his own cost all electric power required for construction, testing, general and security lighting, and all other purposes whether supplied through temporary or permanent facilities. The Contractor may arrange with the local utility to provide adequate temporary electrical service at a mutually agreeable location or provide his own generating equipment, provided it meets the conditions of the noise specifications. The Contractor shall then provide adequate job site distribution facilities conforming to applicable codes and safety regulations.
- B. The Contractor shall provide temporary lighting in all work areas sufficient to maintain a lighting level during working hours not less than the lighting level required by California OSHA standards. Lighting shall be shielded so that adjacent property owners are not adversely impacted.
- C. Install circuit and branch wiring, with area distribution boxes located so that power and lighting is available throughout the Site by use of construction type power cords.
- D. Provide properly configured NEMA polarized outlets to prevent insertion of 110-120 volt plugs into higher voltage outlets. For connection of power tools and equipment, provide outlets equipped with ground-fault circuit interrupters, reset button and pilot light.
- E. Provide grounded extension cords. Use "hard-service" cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords if more than one length is required.
- F. Provide general service incandescent lamps as required for adequate illumination. Provide guard cages or tempered glass enclosures, where exposed to breakage. Provide exterior fixtures where exposed to moisture.

1.03 TEMPORARY WATER

- A. The Contractor shall pay for and construct all facilities necessary to furnish water for use during construction and testing activities. The water shall be kept free from contamination and shall conform to the requirements of the state and local authorities for potable water.

The Contractor shall not make connection to or draw water from any fire hydrants or pipelines without first obtaining permission from the hydrant's Owner. All pipes or hoses that cross sidewalks, driveways, or other access areas shall be ramped and equipped with the appropriate warning signage.

1.04 TEMPORARY SANITARY FACILITIES

- A. Provide self-contained, single-occupant toilet units of the chemical, aerated recirculation, or combustion type, properly vented and fully enclosed in a fiberglass or other approved non-absorbent shell.

1.05 NUISANCE WATER

- A. It is anticipated that nuisance water, such as rainfall, irrigation water, ground water or surface runoff may be encountered within the construction site during the period of construction under this Contract. The Contractor shall at all times protect the work from damage by such waters and shall take all due measures to prevent delays in progress of work caused by such waters. The Contractor shall dispose of nuisance water at his own expense and without adverse effects upon the Owner's property or any other property.

1.06 FIRE EXTINGUISHERS

- A. Provide portable UL-rated, Class A fire extinguishers for temporary offices and similar spaces. In other locations, provide portable UL-rated Class ABC dry chemical extinguishers or a combination of NFPA recommended Classes for the exposure. Comply with NFPA 10 and 241 for classification, extinguishing agent and size required by location and class of fire exposure. Provide extinguishers and/or water pumping/spraying equipment to extinguish vegetation fires on-site that have the potential to spread and become wildfires.

1.07 WATER DISPOSAL

- A. The effluent produced by pipeline testing shall not be discharged into street or gutters unless specified in the technical specifications. Solid matter shall be separated from the effluent prior to disposal. The Contractor shall be properly disposed offsite in accordance with Federal, State, and local requirements. The remaining clean water shall be conveyed via pipeline to the storm drainage system approved by the Owner.
- B. The Contractor shall notify the Owner and obtain all permits and approvals before discharging water flow off-site.
- C. Construction water from the site shall be disposed of via pipelines adequate to completely contain the flows produced.

1.08 NOISE CONTROL

- A. On-Site Compliance - The Contractor will demonstrate with noise measurements that he is in compliance with the noise limits.
- B. Noncompliance Corrective Action - If, at any time prior to or during construction, the noise limits are exceeded, immediate corrective action shall be taken through equipment

modifications, addition of noise abatement equipment or change in operating procedures. The Contractor shall then demonstrate compliance through noise measurements.

1.09 FIELD OFFICE

- A. None required for the Santa Ana Sucker Habitat Protection and Beneficial Use Enhancement Project.

1.10 OPERATIONS AND TERMINATIONS

- A. Reserved.

END OF SECTION

SECTION 01562

DUST CONTROL

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. The Contractor shall perform dust control operations, in an approved manner, whenever necessary or when directed by the Owner, even though other work on the project may be suspended. Dust control shall be generally accomplished by the spraying of water at least twice a day, or as necessary. The use of an acrylic copolymer may not be used to control dust nuisance. Other dust control methods will be considered on a case-by-case basis.
- B. Acrylic copolymer shall conform to Caltrans Standard Specification Section 20.2.11. NOT ALLOWED for the Santa Ana Sucker Habitat Protection and Beneficial Use Enhancement Project.
- C. The Contractor's methods of controlling dust shall meet all air pollutant standards as set forth by federal, state, and local regulatory agencies. Water shall also be sufficient to prevent dust in amounts damaging to property, cultivated vegetables, domestic animals, or as to cause a nuisance to persons living in or occupying buildings in the vicinity.
- D. Dust nuisance during construction shall be abated by cleaning and sweeping paved areas and repeated wetting of exposed soils. During periods of high winds (30 mph or higher) earthmoving types of tasks shall be terminated.
- E. Dirt hauled in trucks shall be covered to reduce construction related dust.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01575

TRAFFIC REGULATIONS

PART 1 GENERAL

1.01 PROSECUTION OF THE WORK

- A. All work shall be coordinated so as to avoid the closing of streets or public way. The Contractor shall at all time keep the Owner and cities and other jurisdictions affected informed of streets that are closed and when they are re-opened. A permit for any street or lane closure on public streets must be obtained by the Contractor from the appropriate agency. The Contractor shall comply with all conditions of said permits. The contractor will be required to apply for, obtain and pay for any and all required haul permits to complete the work.

1.02 SUBMITTALS

- A. Traffic control plans shall be prepared by the Contractor. The Contractor shall submit the plan to the agency having jurisdiction over streets, traffic control and/or detour plans, in accordance with the agency's standards. Traffic control plans shall show the length of the work area, the maximum length of pavement that will be saw cut or ground at one time and other requirements. Traffic control plans shall be prepared under the supervision of a licensed traffic engineer, registered in the State of California, and shall be sealed accordingly. Two copies of the agency approved traffic control plans shall be provided to the Owner.

1.03 CLOSING OF STREETS

- A. No street or alley shall be closed to the public by the Contractor except as authorized by the City and in accordance with procedures outlined herein. Whenever, in the prosecution of the work, the Contractor finds it necessary to close a street to traffic, he shall advise the Police and Fire Departments forty-eight (48) hours in advance of the time when the street will require closing. The forty-eight (48) hour notice will be required in all cases involving the normal prosecution of the work and convenience of the Contractor. Twenty-four (24) hours prior to commencement of work, the Contractor shall furnish and install approved "No Parking" signs, giving day of week; i.e., "No Parking In This Block On Thursday". At time of posting, verbal notice of intent shall be given to occupants of premises involved. In cases of emergency, involving conditions over which the Contractor has no control, the street may be closed. In these cases, the Contractor is also required to immediately notify the Police and Fire Departments and the City.
- B. A minimum of two lanes for traffic shall be maintained in each direction along all other streets unless the Contractor obtains written permission from the agency having jurisdiction.

1.04 DETOURS

- A. Whenever streets or alleys are closed as provided herein, it will be the sole responsibility of the Contractor to adequately mark and light the detours.
- B. Wherever detours are required over areas other than on established City streets, it shall be the responsibility of the Contractor to secure all necessary permission from the property owners involved, prior to establishing such detours. Traffic shall not be routed over such detour until it has been bladed and shaped in such a way as to provide a reasonably safe and convenient roadway to the traveling public. Where detours are established over such areas or over unpaved City streets, it shall be the responsibility of the Contractor to maintain such detours with a

minimum of inconvenience to the adjoining property owners. Full provision shall be made by the Contractor for dust control.

1.05 TRAFFIC MAINTAINED OVER CONSTRUCTION

- A. Where traffic is maintained along the street or alley under construction, particular care shall be used to shape and maintain the roadbed so that a safe and convenient roadway is available to the traveling public. Traffic plates and temporary cold mix asphalt shall be used to cover open and backfilled trenches at the end of each day's work. Ramps from undisturbed streets onto disturbed areas shall be maintained for traffic on gradual grades and in no case shall a ramp be steeper than a 6 horizontal to 1 vertical slope. The Contractor shall make full provision for dust control in accordance with Section 01500.

1.06. BARRICADES AND WATCHMEN

- A. At the end of each workday, it shall be the responsibility of the Contractor to check each job site to ensure proper barricading. Barricades will not be removed from each job site until the hazard has been removed.
- B. The Contractor shall erect and maintain barricades and sufficient safeguards around all excavation, embankments, and obstructions; shall provide suitable warning lights on or near the work and keep them lighted at night or other times when visibility is limited and shall employ such watchmen as may be necessary for the protection of the public. These requirements, and all requirements herein pertaining to safeguards in public thoroughfares, shall be in accordance with "Manual of Traffic Controls for Construction and Maintenance Work Zones of the California Department of Transportation" latest edition, and any revisions which are to be considered in effect.

1.07 PROTECTION OF STREET SIGNS, TRAFFIC SIGNS, AND SIGNALS

- A. Street signs, traffic signs, signals, and other traffic control devices erected by the City, County, or State for information and to safeguard traffic must be protected by the Contractor. Where it is necessary to disturb or remove any of these items, the Contractor shall secure approval of the Engineer prior to any such work, this approval to be based on concurrence and requirements from the agency having jurisdiction.

1.08 MAINTENANCE OF TRAFFIC AND DRAINAGE

- A. During the progress of the work, the Contractor shall provide free access to fire hydrants, water and gas valves; gutters and waterways must be kept open or other suitable provisions made for the removal of storm water. Access to residential and commercial property must be maintained at all times. The Contractor shall build and maintain temporary driveways, bridges, and crossings, such as in the opinion of the Engineer are necessary to reasonably accommodate the public. In the event of the Contractor's failure to comply with the same, the Engineer may cause such work to be done by others and deduct the cost of such work from any money due or to become due the Contractor under this Contract. Performance of such work by the Engineer shall serve in no way to release the Contractor from his general or particular liability for the safety of the Public or the work.

PART 2 TRAFFIC CONTROL

2.01 MAINTAINING TRAFFIC

- A. Construction warning signs and sign placement shall conform to the latest revision of the "Manual of Traffic Controls for Construction and Maintenance Work Zones of the California Department of Transportation."
- B. As noted in Paragraph 1.02, traffic control plans shall be prepared, if needed. This plan will be used in permit applications to regulatory agencies. Any changes to the traffic control plans must be approved by the applicable permit agencies.
- C. The Contractor shall furnish and maintain construction traffic control signing that shall include advance warning signs required by the Owner during construction that interfaces with any moving traffic lane.
- D. All structures and other materials delivered to the job shall be unloaded and placed in a manner which will not interfere with the flow of necessary traffic.

END OF SECTION

SECTION 01600

DELIVERY, STORAGE AND HANDLING

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. This Section specifies the general requirements for the delivery, handling, storage and protection for all items required in the construction of the work. Specific requirements, if any, are specified with the related item.

1.02 TRANSPORTATION AND DELIVERY

- A. Transport and handle items in accordance with manufacturer's instructions.
- B. Schedule delivery to reduce long term on-site storage prior to installation and/or operation. Under no circumstances shall equipment be delivered to the site more than one month prior to installation without written authorization from the Owner.
- C. Coordinate delivery with installation to ensure minimum holding time for items that are hazardous, flammable, easily damaged or sensitive to deterioration.
- D. Deliver products to the site in manufacturer's original sealed containers or other packing systems, complete with instructions for handling, storing, unpacking, protecting and installing.
- E. All items delivered to the site shall be unloaded and placed in a manner which will not hamper the Contractor's normal construction operation or those of subcontractors and other contractors and will not interfere with the flow of necessary traffic.
- F. Provide necessary equipment and personnel to unload all items delivered to the site.
- G. Promptly inspect shipment to assure that products comply with requirements, quantities are correct and items are undamaged. For items furnished by others (i.e., Owner, other Contractors), perform inspection in the presence of the Owner. Notify Owner verbally, and in writing, of any problems.

1.03 STORAGE AND PROTECTION

- A. The Contractor shall furnish a covered, weather-protected storage structure providing a clean, dry, non-corrosive environment for all mechanical equipment, pre-purchased equipment, valves, architectural items, electrical and instrumentation equipment and special equipment to be incorporated into this project. Storage of equipment shall be in strict accordance with the "instructions for storage" of each equipment supplier and manufacturer including connection of heaters, placing of storage lubricants in equipment, etc. The Contractor shall furnish a copy of the manufacturer's instructions for storage to the Owner prior to storage of all equipment and materials. Corroded, damaged or deteriorated equipment and parts shall be replaced before acceptance of the project. Equipment and materials not properly stored will not be included in a payment estimate.
- B. Store and protect products in accordance with the manufacturer's instructions, with seals and labels intact and legible. Storage instructions shall be studied by the Contractor and reviewed

with the Owner by him/her. Instructions shall be carefully followed and a written record of this kept by the Contractor. Arrange storage to permit access for inspection.

- C. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter. Surfaces shall be durable and free of loose material to prevent un-indented materials from mixing into the project materials during re-handling or re-loading.
- D. Cement shall be stored under a roof and off the ground and shall be kept completely dry at all times. All structural, miscellaneous and reinforcing steel shall be stored off the ground or otherwise to prevent accumulations of dirt or grease and in a position to prevent accumulations of standing water and to minimize rusting. Beams shall be stored with the webs vertical. Precast concrete shall be handled and stored in a manner to prevent accumulations of dirt, standing water, staining, chipping or cracking. Brick, block and similar masonry products shall be handled and stored in a manner to reduce breakage, cracking and spalling to a minimum. Plastic pipe shall be stored in a location without direct exposure to sunlight.
- E. All mechanical and electrical equipment and instruments subject to corrosive damage by the atmosphere if stored outdoors (even though covered by canvas) shall be stored in a weathertight building to prevent damage. The building may be a temporary structure on the site or elsewhere, but it must be satisfactory to the Owner. Building shall be provided with adequate ventilation to prevent condensation. Maintain temperature and humidity within range required by manufacturer.
 - 1. All equipment shall be stored fully lubricated with oil, grease and other lubricants unless otherwise instructed by the manufacturer.
 - 2. Moving parts shall be rotated a minimum of once weekly to ensure proper lubrication and to avoid metal-to-metal "welding." Upon installation of the equipment, the Contractor shall exercise the equipment, once weekly for an adequate period of time to ensure that the equipment does not deteriorate from lack of use.
 - 3. Lubricants shall be changed upon completion of installation and as frequently as required thereafter during the period between installation and acceptance. New lubricants shall be put into the equipment at the time of acceptance.
 - 4. Prior to acceptance of the equipment, the Contractor shall have the manufacturer inspect the equipment and certify that its condition has not been detrimentally affected by the duration of the storage period. Such certifications by the manufacturer shall be deemed to mean that the equipment is judged by the manufacturer to be in a condition equal to that of equipment that has been shipped, installed, tested and accepted in a minimum time period. As such, the manufacturer will guaranty the equipment equally in both instances. If such a certification is not given, the equipment shall be judged to be defective. It shall be removed and replaced at the Contractor's expense.
- F. All materials and equipment to be incorporated in the work shall be handled and stored by the Contractor before, during and after shipment in a manner to prevent warping, twisting, bending, breaking, chipping, rusting and any injury, theft or damage of any kind whatsoever to the material or equipment.
- G. In addition to these requirements, the Contractor is responsible for the coordination of storage of materials provided by the Owner.

PART 2 PRODUCTS
(NOT USED)

PART 3 EXECUTION
(NOT USED)

END OF SECTION

SECTION 01610

MATERIAL AND EQUIPMENT

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Material and equipment incorporated into the Work must:
 - 1. Conform to applicable specifications and standards.
 - 2. Comply with size, make, type and quality specified, or as specifically approved in writing by the Owner.
 - 3. Manufactured and Fabricated Products
 - a. Design, fabricate and assemble in accordance with the best engineering and shop practices.
 - b. Manufacture like parts of duplicate units to standard sizes and gages, to be interchangeable.
 - c. Two or more items of the same kind shall be identical, by the same manufacturer.
 - d. Products shall be suitable for service conditions.
 - e. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.
 - 4. Material or equipment shall not be used for any purpose other than that for which it is designed or is specified.

1.02 RELATED REQUIREMENTS

- A. Summary of Work is included in Section 01010.
- B. Shop Drawings, Working Drawings, Product Data and Samples are included in Section 01300.

1.03 APPROVAL OF MATERIALS

- A. Unless otherwise specified, only new materials and equipment shall be incorporated in the work. All materials and equipment furnished by the Contractor shall be subject to the inspection and approval of the Owner. No material requiring submittals (01300) shall be delivered to the work area without prior approval of the Owner.
- B. The Contractor shall submit to the Owner, data relating to materials and equipment he/she proposes to furnish for the work. Such data shall be in sufficient detail to enable the Owner to identify the particular product and to form an opinion as to its conformity to the specifications. The data shall comply with Section 01300.
- C. Facilities and labor for handling and inspection of all materials and equipment shall be furnished by the Contractor. If the Owner requires, either prior to beginning or during the progress of the

work, the Contractor shall submit samples of materials for such special tests as may be necessary to demonstrate that they conform to the specifications. Such samples shall be furnished, stored, packed, and shipped as directed at the Contractor's expense. Except as otherwise noted, the Contractor will make arrangements for and pay for the tests.

- D. The Contractor shall submit data and samples sufficiently early to permit consideration and approval before materials are necessary for incorporation in the work. Any delay of approval resulting from the Contractor's failure to submit samples or data promptly shall not be used as a basis of claim against the Owner.
- E. In order to demonstrate the proficiency of workmen or to facilitate the choice among several textures, types, finishes and surfaces, the Contractor shall provide such samples of workmanship or finish as may be required.
- F. The materials and equipment used on the work shall correspond to the approved samples or other data.

1.04 MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION

- A. When Contract Documents require that installation of work shall comply with manufacturer's printed instructions, obtain and distribute copies of such instructions to parties involved in the installation, including an electronic pdf file and six (6) hardcopies to the Owner.
 - 1. Maintain one set of complete instructions at the job site during installation and until completion.
- B. Handle, install, connect, clean, condition and adjust products in strict accord with such instructions and in conformity with specified requirements.
 - 1. Should job conditions or specified requirements conflict with manufacturer's instructions, consult with Owner for further instructions.
 - 2. Do not proceed with work without clear instructions.
- C. Perform work in accordance with manufacturer's instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.

1.05 TRANSPORTATION AND HANDLING

- A. Arrange deliveries of Products in accord with construction schedules, coordinate to avoid conflict with work and conditions at the site.
 - 1. Deliver Products in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.
 - 2. Immediately on delivery and prior to unloading inspect shipments to assure compliance with requirements of Contract Documents and approved submittals, and that Products are properly protected and undamaged.
- B. Provide equipment and personnel to handle Products by methods to prevent soiling or damage to Products or packaging.

1.06 STORAGE AND PROTECTION

- A. All equipment and materials shall be stored in accordance with Section 01600.
- B. All materials which, in the opinion of the Owner, have become so damaged as to be unfit for the use intended or specified shall be promptly removed from the site of the work and the Contractor shall receive no compensation for the damaged material or its removal.
- C. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored Products to assure that Products are maintained under specified conditions and free from damage or deterioration.
- D. Protection after Installation
 - 1. Provide substantial coverings as necessary to protect installed products from damage from traffic and subsequent construction operations. Remove covering when no longer needed.
- E. The Contractor shall be responsible for all material, equipment and supplies delivered to the site to be installed under this Contract until final inspection of the work and acceptance thereof by the Owner. In the event any such material, equipment, or supplies are lost, stolen, damaged, or destroyed prior to final inspection and acceptance, the Contractor shall replace same without additional cost to the Owner.
- F. Should the Contractor fail to take proper action on storage and handling of equipment supplied under this Contract, including Owner-assigned equipment within seven (7) days after written notice to do so has been given, the Owner retains the right to correct all deficiencies noted in previously transmitted written notice and deduct the cost associated with these corrections from the Contractor's Contract. These costs may be comprised of expenditures for labor, equipment usage, administrative, clerical, Engineer and any other costs associated with making the necessary corrections.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01700

CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. This Section specifies administrative and procedural requirements for project closeout, including but not limited to:
 - 1. Closeout procedures
 - 2. Final cleaning
 - 3. Adjusting
 - 4. Project record documents
 - 5. Spare parts and maintenance materials

1.02 RELATED WORK

- A. Warranties and bonds are included in Section 01740.

1.03 RECORD DOCUMENTS

- A. Maintain on site, one set of the following documents; actual revisions to the Work shall be recorded in these documents:
 - 1. Contract Drawings
 - 2. Specifications
 - 3. Addenda
 - 4. Change Orders and other modifications to the contract
 - 5. Reviewed shop drawings, product data, and samples
- B. Store record documents separate from documents used for construction.
- C. Record information concurrent with construction progress.
- D. Contract Drawings and Shop Drawings: legibly mark each item to record actual construction including:
 - 1. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - 2. Field changes of dimension and detail.
 - 3. Details not on original Contract Drawings.

4. The Contractor will maintain one hardcopy of the drawings at the site and mark-up all actual construction dimensions and other changes on a daily basis. This drawing set will be submitted to the Owner at the end of the Project. Incomplete, illegible or missing mark-ups may result in Contractor payment delays.

- E. Submit documents to Engineer with application for final payment.

1.04 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected and that Work is complete in accordance with Contract Documents and ready for Owner's inspection.
- B. Provide submittals to Owner that are required by governing or other authorities.
- C. Submit application for final payment identifying total adjusted contract sum, previous payments and sum remaining due.

1.05 FINAL CLEANING

- A. Complete the following cleaning operations before requesting inspection for certification of substantial completion.
 1. Clean the site, including landscape development areas, of rubbish, litter and other foreign substances. Sweep paved areas broom clean; remove stains, spills and other foreign deposits. Rake grounds that are neither paved nor planted, to a smooth even-textured surface.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01740

WARRANTIES AND BONDS

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. This Section specifies general administrative and procedural requirements for warranties and bonds required by the Contract Documents, including manufacturers' standard warranties on products and special warranties.

1.02 RELATED WORK

- A. Refer to conditions of contract for the general requirements relating to warranties and bonds.
- B. General closeout requirements are included in Section 01700.
- C. Specific requirements for warranties for the Work and products and installations that are specified to be warranted are included in the individual Sections of Divisions 2 and 3.
- D. Certifications and other commitments and agreements for continuing services to the Owner are specified elsewhere in the Contract Documents.

1.03 SUBMITTALS

- A. Submit written warranties to the Owner prior to the date fixed by the Owner for Substantial Completion. If the Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the Work, or a designated portion of the Work, submit written warranties upon request of the Owner.
- B. When a designated portion of the Work is completed and occupied or used by the Owner, by separate agreement with the Contractor during the construction period, submit properly executed warranties to the Owner within fifteen days of completion of that designated portion of the Work.
- C. When a special warranty is required to be executed by the Contractor, or the Contractor and a subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the Owner for approval prior to final execution.
- D. Refer to individual Sections of Divisions 2 and 3 for specific content requirements, and particular requirements for submittal of special warranties.
- E. At Final Completion provide an electronic PDF file and compile two hardcopies of each required warranty bond properly executed by the Contractor, or by the Contractor, subcontractor, supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual.
- F. Bind warranties and bonds in heavy-duty, commercial quality, durable 3-ring vinyl covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-in by 11-in paper. Also, provide an electronic PDF file.

- G. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification Section in which specified, and the name of the product or work item.
- H. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product, and the name, address and telephone number of the installer, supplier and manufacturer.
- I. Identify each binder on the front and the spine with the typed or printed title "WARRANTIES AND BONDS", the Project title or name, and the name, address and telephone number of the Contractor.

1.04 WARRANTY REQUIREMENT

- A. Related Damages and Losses: When correcting warranted Work that has failed, remove and replace other Work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted Work.
- B. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or re-building, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
- C. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.
- D. Owner's Recourse: Written warranties made to the Owner are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights, or remedies.
- E. Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selections to products with warranties not in conflict with requirements of the Contract Documents.
- F. The Owner reserves the right to refuse to accept Work for the Project where a special warranty, certification, or similar commitment is required on such Work or part of the Work, until evidence is presented that entities required to countersign such commitments are willing to do so.

- G. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

1.05 DEFINITIONS

- A. Standard Product Warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner.
- B. Special Warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the Owner.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 02100

SITE PREPARATION

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials and equipment required and perform all site preparation, complete as shown on the Drawings and as specified herein. Site preparation not specially called out in these documents, but generally required to complete the project and/or considered standard practice shall be included in Site Preparation.
- B. Obtain all permits required for site preparation work prior to proceeding with the work, including clearing and tree removal.
- C. The areas to be cleared, grubbed and stripped within public rights-of-way and utility easements shall be minimized to the extent possible for the scope of work and in consideration of the actual means and methods of construction used. No unnecessary site preparation within these areas shall be performed. The areas to be cleared, grubbed and stripped are either shown on the Plans or are inclusive with the improvement area(s) shown. The Contractor will attend a site meeting with the Owner (or Owner's representative) prior to starting Site Preparation to confirm which trees vegetation shall be removed and which trees and vegetation shall be protected in place.

1.02 RELATED WORK

- A. Dewatering and Drainage is included in Section 02140.
- B. Earthwork is included in Section 02200.
- C. Sedimentation and Erosion Control is included in Section 02270.

1.03 SUBMITTALS

- A. Submit, in accordance with Section 01300, copies of all permits required prior to clearing, grubbing, and stripping work.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 CLEARING

- A. Cut and remove all timber, trees, tree limbs, stumps, brush, shrubs, roots, grass, weeds, rubbish, foundation remnants, abandoned utilities and any other objectionable material resting on or protruding through the surface of the ground.
- B. Preserve and protect trees and other vegetation designated on the Drawings or directed by the Owner to remain as specified below.

3.02 GRUBBING

- A. Grub and remove all stumps, roots in excess of 1-1/2-in in diameter, matted roots, brush, timber, logs, concrete rubble and other debris encountered to a depth of 24-in below original grade or 18-in beneath the bottom of foundations, whichever is deeper.
- B. In areas to receive general groundcover (crushed rock, bark or mulch), refill all grubbing holes and depressions excavated below the original ground surface with Unclassified Fill and compact to a density conforming to the surrounding ground surface in accordance with Section 02200.
- C. In areas below new foundations or under improved surfaces (concrete or pavement), in grubbing holes and depressions, excavate down to undisturbed soil and refill and compact with structural aggregate fill in accordance with Section 02200.

3.03 STRIPPING

- A. Strip topsoil from all areas to be occupied by buildings, structures, and roadways and all areas to be excavated or filled. Topsoil shall be temporarily stockpiled for re-use during finish grading.
- B. Topsoil shall be free from brush, trash, large stones and other extraneous material. Store topsoil separately from subsoil.
- C. Dispose of surplus topsoil after all work is completed.

3.04 DISPOSAL

- A. Dispose of excess soils, material and debris from Site Preparation activities. Excess soils, materials and debris shall be removed and hauled to an approved offsite disposal area. No rubbish or debris of any kind shall be buried on the site.
- B. Burning of debris, trash, cleared and grubbed materials, or other fires for any reason will not be permitted on the site at any time.

3.05 PROTECTION

- A. Trees, plantings and other vegetation identified on the Construction Drawings or identified by the Owner (or Owner's representative) to be protected in place shall be safe-guarded from damage by erecting suitable barriers, guards and enclosures, or by other approved means. The Contractor shall conduct trimming, clearing and grubbing operations in a manner to prevent falling trees or limbs from damaging adjacent trees and vegetation designated to be protected in place. All other structures, pedestrians, workers, utilities and facilities shall be protected during Site Preparation.
- B. Maintain protection until all work in the vicinity of the work being protected has been completed.
- C. Do not operate heavy equipment or stockpile materials within the branch spread of existing trees.
- D. Immediately repair any damage to existing tree crowns, trunks, or root systems. Roots exposed and/or damaged during the work shall immediately be cut off cleanly inside the exposed or

damaged area. Treat cut surfaces with an acceptable tree wound paint and topsoil spread over the exposed root area.

- E. When work is completed, remove all dead and downed trees. Live trees shall be trimmed of all dead and diseased limbs and branches. All cuts shall be cleanly made at their juncture with the trunk or preceding branch without injury to the trunk or remaining branches. Cuts over 1-in in diameter shall be treated with acceptable tree wound paint. The contractor shall submit technical information of the proposed tree wood paint to the Owner for review and approval.
- F. Restrict construction activities to those areas within the limits of construction designated on the Drawings, within public rights-of-way, and within easements provided by the Owner. Adjacent properties and improvements thereon, public or private, which become damaged by construction operations shall be promptly restored to their original condition, to the full satisfaction of the property owner.
- G. The Contractor will cut and trim 5 branches from the vegetation cleared on-site and store them for placement in the habitat structure. The branches will be selected by the Owner and will generally range from 4-inches to 10-inches in diameter and be up to 10 feet in length.

END OF SECTION

SECTION 02140

DEWATERING AND DRAINAGE

PART 1 GENERAL

1.01 STATUTORY REQUIREMENTS

- A. Contractor shall apply for, obtain and pay for all permits required for temporary dewatering and drainage systems required to complete the work.
- B. All required permits shall be obtained, displayed and made available for review on the job site prior to constructing or operating the dewatering and drainage systems.

1.02 SCOPE OF WORK

- A. Fabricate, furnish, install/construct, operate, monitor, maintain and remove temporary dewatering and drainage systems and equipment as required to manipulate, lower and maintain groundwater levels below subgrades of excavations and to prevent slope or trench sidewall erosion or failure. The Contractor shall perform grading or provide other jobsite controls to prevent surface water runoff from entering or accumulating in excavations. Surface water runoff controls will be implemented by the contractor to avoid sediment from leaving the site.
- B. Furnish the services of a licensed professional Engineer registered in the State of California, to prepare dewatering and drainage system designs and submittals.
- C. The Contractor shall collect and properly dispose of all discharge water and accumulated sediment from dewatering, drainage systems, and site runoff resulting from the Contractor activities. All disposal of water and sediment shall be done in accordance with State and local regulations, requirements and permits.
- D. Repair damage caused by dewatering and drainage system operations.
- E. Remove temporary dewatering and drainage systems when no longer needed. Restore all disturbed areas.
- F. The Contractor will install, maintain and remove a diversion berm within the Santa Ana River to isolate the work area from the flowing water of the river. The berm will be constructed of native sediment in the vicinity of the work area and will be installed and removed to avoid harm to native fish.

1.03 RELATED WORK

- A. Trenching, Backfilling and Compaction is included in Section 02220.
- B. Sedimentation and erosion control is included in Section 02270.

1.04 SUBMITTALS

- A. Submit to the Owner the flow control, temporary dewatering, drainage system and sediment control designs and inspection, maintenance and repair procedures. Dewatering, drainage system and sediment control designs shall be prepared by a licensed professional engineer,

registered in the State of California, having a minimum of 5 years of professional experience in the design and construction of dewatering, drainage system and sediment control designs. The Contractor's submittal will be informational only, and the Contractor shall be solely responsible for the adequacy, safety of construction means methods/techniques and effectiveness of the system(s) designed and operated. Diversion Berm submittal including the design of the berm, material used and installation and removal procedure and equipment.

1.05 DEFINITIONS

- A. Where the phrase "in-the-dry" is used in this Section, it shall be defined as in situ soil moisture content of no more than two percentage points above the optimum moisture content for that soil.
- B. The phrase "Partially Wet" is used in the construction drawings and is intended to mean work allowed in standing water but NOT flowing water. Only conditions in which the finished dimensions of the work can be confirmed will be allowed.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL

- A. Control surface water, groundwater and transported sediment such that initial excavation phases to final grade phases are made in-the-dry, and soils required to support loading (bearing soils) are maintained undisturbed. Prevent submergence, softening, instability of, or disturbance to, the subgrade due to water seepage or surface water runoff.
- B. Provide protection against flotation for all work and for existing structures and utilities.
- C. The effect of anticipated surface and subsurface soil/water conditions shall be considered when selecting methods of grading, excavation and temporary dewatering, sediment and drainage system controls. Where groundwater levels are above the proposed bottoms of excavations, a pumped dewatering system is expected for pre-drainage of the soils prior to excavation to final grade and for maintenance of the lowered groundwater level until construction has been completed to such an extent that the foundation, structure, pipe, conduit, or fill will not be floated or otherwise damaged. Where groundwater levels are unknown at the time of construction, the Contractor will perform borings, potholes or excavations to determine the depth to groundwater. The type of surface water controls, dewatering system(s), spacing of dewatering units and other details of the work are expected to vary with soil/water conditions at a particular location.

3.02 SURFACE WATER CONTROL

- A. Control surface water runoff to prevent flow into excavations. Provide temporary measures such as dikes, ditches and sumps.

3.03 EXCAVATION DEWATERING

- A. Provide and maintain adequate equipment and facilities to remove promptly and dispose of properly all water entering excavations. Excavations shall be kept in-the-dry, so as to maintain

an undisturbed subgrade condition throughout construction below grade, including backfill and fill placement.

- B. Collect precipitation or surface runoff in shallow ditches around the perimeter of the excavation, drain to sump and pump from the excavation to maintain in-the-dry conditions.
- C. Maintenance access structures shall not be installed in water or allowed to be submerged prior to backfilling. Structures which become submerged shall be removed and the excavation dewatered and restored to proper conditions prior to reinstalling the structures.
- D. Excavations for foundations and structures shall be maintained in-the-dry for a minimum of 4 days after concrete placement. In no event shall water be allowed to enter an excavation and rise to cause unbalanced pressure on foundations and structures until the concrete or mortar has set at least 24 hours.
- E. Dewatering and drainage operations shall at all times be conducted in such a manner as to preserve the natural undisturbed bearing capacity of the subgrade at the bottom of the excavation. If the subgrade becomes disturbed for any reason, the unsuitable subgrade material shall be removed and replaced with concrete, compacted granular fill, or other approved material to restore the bearing capacity of the subgrade to its original undisturbed condition to the satisfaction of the Owner.
- F. Dewatering and drainage operations shall be conducted in a manner that does not cause loss of ground or disturbance to the pipe bedding or soil that supports overlying or adjacent structures.

3.04 DISPOSAL OF DRAINAGE

- A. All water discharged from temporary dewatering and drainage systems shall be disposed of in accordance with the sedimentation and erosion control plans as specified in Section 02270. Existing or new sanitary sewer systems shall not be used to dispose of drainage unless the written permission of the utility or owner is obtained.
- B. All water discharged from temporary dewatering and drainage systems shall meet all Federal, State, and local water quality requirements of the system into which the water is disposed.

END OF SECTION

SECTION 02200 – EARTHWORK

PART 1 – GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, aggregate, equipment and transport required to perform all excavation, subgrade corrections, backfill, fill and grading required to complete the work as shown on the Construction Drawings and as described in the General Provisions, Special Provisions and Technical Specifications. The work shall include, but not be limited to; excavation for structures, footings/foundations, manholes, vaults, electrical, subgrade corrections, utilities, paving, all benching, fill and grading; disposal of all debris and surplus soils/materials; and all related work such as sheeting, shoring and bracing.
- B. All excavations, excavated slopes and related sheeting, shoring and bracing shall comply with the requirements of OSHA excavation safety standards (29 CFR) and CalOSHA. Where conflict between OSHA and State regulations exists, the more stringent requirements shall apply.

1.02 RELATED WORK

- A. Trenching, Backfilling, and Compaction: Section 02223.
- B. Dewatering and Drainage: Section 02140.

1.03 SUBMITTALS

- A. Submit to the Owner, in accordance with the General Provisions and Special Provisions, and 4 weeks prior to excavation, the following:
 - 1. Excavation, sheeting, shoring and bracing plan: for all shoring, sheet piling and/or bracing operations, the Contractor shall submit calculations and detailed plan signed by a registered civil engineer in the State of California.
 - 2. Unclassified fill, structural fill and habitat feature material gradation curves and samples.
 - 3. Procedures and equipment list for the placement of subgrade corrections and backfill to achieve the required compaction.
 - 4. Drainage and dewatering system(s) design.
 - 5. List of disposal sites and confirmation from disposal site owner of acceptance of material proposed to be disposed of at each site.

1.04 REFERENCE STANDARDS

- A. American Society for Testing and Materials (ASTM)
 - 1. ASTM C33 - Specification for Concrete Aggregates.
 - 2. ASTM D1557 - Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort.

3. ASTM D1682 - Standard Test Methods for Breaking Load and Elongation of Textile Fabrics.
 4. ASTM D2487 - Standard Classification of Soils for Engineering Purposes.
 5. ASTM D4253 – Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table.
 6. ASTM D4254 – Standard Test Methods for Maximum Index Density and Unit Weight of Soils and Calculation of Relative Density.
 7. ASTM D4751 - Standard Test Method for Determining the Apparent Opening Size of a Geotextile.
- B. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

1.05 PROTECTION

A. Sheeting, Shoring and Bracing

1. Fabricate, supply, construct, erect or otherwise install and maintain sheeting, shoring and bracing as required: by Federal, State and local safety requirements and regulations. The sheeting, shoring and bracing system(s) shall support the sides and bottoms of excavations to prevent any movement which would risk human life or safety, or preclude or diminish the quality of any improvement. Sheeting, shoring and bracing shall protect adjacent structures from undermining, settlement, movement or other damage. If the Owner (or Owner's representative) is of the opinion that at any sheeting, shoring or bracing is inadequate, he/she may order additional supports (or other appropriate reinforcements) put in. The Contractor's compliance with such order shall not relieve or release the Contractor from his/her responsibility for the sufficiency of such supports and stability and effectiveness of the overall system(s). Care shall be taken to prevent voids outside of the sheeting, but if voids are formed, they shall be immediately filled and compacted or consolidated. Where soil cannot be properly compacted to fill a void, lean concrete shall be used as backfill.
2. Sheeting, shoring and bracing shall be positioned a sufficient distance away for the improvements to allow effective construction of the improvements. Sheeting, shoring and bracing shall remain stable in the initial installed position and be securely braced and/or tied in position. Sheeting, shoring and bracing shall be designed and constructed to withstand all pressures to which the system, structure or trench will be subjected. Any movement, shifting, uprising or bulging which may occur shall be corrected immediately to stop further movement to provide the necessary clearances and dimensions and support of adjacent structures or utilities.
3. The Owner (or the Owners representative) may direct the Contractor to leave any sheeting, shoring and bracing to be left in place, or embedded in the backfill, and not shown on the Construction Drawings, but which should remain in-place for the purpose of preventing risk to human life or safety or damage to structures, utilities, or property. The Owner (or the Owners representative) may direct that timber used for sheeting,

shoring and bracing be cut off at any specified elevation. Payment for sheeting, shoring and bracing to be embedded in the backfill as shown on the Plans to be left in place will be included in the Base Bid. All timber sheeting to be left in place within the limits of the structure shall be treated for subgrade construction. All sheeting, shoring and bracing left in place shall be photo documented and the locations surveyed and added to the "As-Built" drawings, including the horizontal and vertical locations and a description of the sheeting, shoring and bracing materials left in place.

4. All sheeting, shoring and bracing not left in place or embedded shall be carefully removed in such a manner as not to damage or move the construction or other structures, utilities, or property. All voids left or caused by withdrawal of sheeting, shoring and bracing shall be immediately refilled with a pre-approved backfill material and consolidated or compacted to avoid any future settlement or movement. The Contractor will submit void backfill materials and procedures to the Owner for review and approval.
5. The right of the Owner (or Owner's representative) to order sheeting, shoring and bracing left in place shall not be construed as creating any obligation on his/her part to issue such orders, and his/her failure to exercise his/her right to do so shall not relieve the Contractor from liability for damages to persons or property occurring from or upon the work occasioned by negligence or otherwise, growing out of a failure on the part of the Contractor to leave in place sufficient sheeting, shoring and bracing to prevent any caving or moving of the ground.
6. No sheeting, shoring or bracing is to be withdrawn if driven below mid-diameter of any pipe, conduit or utility and under no circumstances shall any sheeting, shoring or bracing be cut off at a level lower than 1-foot above the top of any pipe, conduit or utility.

1.06 SOIL TESTING

- A. Prior to the placement of fill and during placement, the Owner (or Owner's representative) may select areas within the limits of the fill for testing the degree of compaction obtained. The Contractor shall cooperate fully in, and provide safe entry and passage for, performing the testing and obtaining the information desired.
- B. Payment for testing will be made by the Owner to the testing firm or laboratory. The Contractor's time, equipment, labor and material required for assisting in the collection of test data shall be included in the Contractor's base bid. If test results are unsatisfactory, all costs involved in correcting deficiencies in compacted materials to the satisfaction of the Owner (or Owner's representative), will be borne by the Contractor. This may include but is not limited to the removal of soil or fill, processing it to achieve the proper moisture content and re-placement and re-compaction.
- C. Tests specified below will be performed by the Owner's representative during the progress of the work to determine compliance with the compaction requirements specified. The Contractor shall cooperate on the making of such tests by providing the labor and equipment necessary to obtain said tests at the required depth and allowing a reasonable time and safe passage therefore.

- D. Testing by Owner is for verification that contract requirements are met and is not for Contractor's quality control. Contractor is responsible for adequacy of all backfill materials meeting contract requirements.
1. Determine the density of soil in place by the sand cone method, ASTM D 1556 or by nuclear methods, ASTM D 2922 and D 3017.
 2. Determine laboratory moisture-density relations of soils by ASTM D 1557.
 3. Determine the relative density of cohesion less soils by ASTM D 4253 and D 4254.
 4. Sample backfill materials by ASTM D 75.
 5. Testing will be performed at depths and intervals at the discretion of the Engineer, Owner or Owner's representative.
- E. "Relative compaction" is the ratio, expressed as a percentage, of the in place dry density to the laboratory maximum dry density.
- F. Any test below the specified relative compaction shall be considered not to comply with the specifications. The area shall be reworked and/or rerolled until all tests in the area meet the specified relative compaction. This may include but is not limited to the removal of soil or fill, processing it to achieve the proper moisture content and re-placement and re-compaction.
- G. Where compaction tests indicate a failure to meet the specified compaction requirements, the Owner (or Owner's representative) will take additional tests at field determined intervals in each direction until the extent of the failing area is identified. The entire area between locations that have passed the tests will be re-worked until the specified compaction has been achieved. The Contractor shall pay the actual cost of all soil re-tests.
- H. The Contractor shall submit procedure(s) for the placement of backfill to achieve the required compaction. A test section shall be selected at the beginning of the project to experiment with proposed compaction procedures, using the equipment the Contractor plans to use on the project. Based on the results of the test section, the procedure(s) may be used or revised for the duration of the project. The procedure(s) shall describe maximum lift thickness and number of passes of the compaction equipment. Periodic monitoring and testing will be performed by the Owner (or Owner's representative) to determine that the requirements of the specification are met.
- I. Relative density is the density of in-place sand or gravel, expressed as a percentage and calculated in accordance with the formula in ASTM D4254.

PART 2 PRODUCTS

2.01 MATERIALS

A. Structural Fill

1. Structural Fill shall be gravel, sandy gravel, or gravelly sand free of organic material, loam, wood, trash, and other objectionable material and shall be well graded within the following limits:

<u>Sieve Size</u>	<u>Percent Finer by Weight</u>
4-in	100
No. 4	20 to 70
No. 40	5 to 35
No. 200	0 to 7

2. Submit to the site a representative sample of proposed structural fill, weighing approximately 50 lbs., at least 5 days prior to the date of anticipated use of such material.
- B. Common Fill shall consist of mineral soil substantially free from organic materials, loam, wood, trash and other objectionable materials which may be compressible or which cannot be properly compacted. Common fill shall not contain stones larger than four (4) inch in largest diameter and shall have a maximum of 75 percent passing the No. 40 sieve and a maximum of 15 percent passing No. 200 Sieve. Common fill shall not contain debris, granite blocks, broken concrete, masonry rubble or other similar materials. It shall have physical properties such that it can be readily spread and compacted during filling. Soil excavated from the structure areas and which meets the above requirements may be used in embankments.
- C. Select Common Fill shall be as specified above for Common Fill except that the material shall contain no stones larger than 2-inch in largest dimension.
- D. Riprap used for slope protection or replacement shall be sound, durable rock which is roughly rectangular shape and of suitable quality to ensure permanence in the condition in which it is to be used. Rounded stones, boulders, sandstone or similar soft stone will not be acceptable. Material shall be free from overburden, spoil, shale and organic material, meet the Engineer's approval, meet all requirements of the Army COE, be well graded and equal in size to the replaced riprap and be installed within the limits shown on the Construction Drawings. New riprap imported to be used to replace riprap removed during construction will be of equal size and weight unless specified otherwise.
- E. Crushed Stone or Crushed Aggregate Base
1. Crushed stone shall conform to the requirements of SSPWC, Subsection 200-1.2, for 3/4-inch crushed rock. Samples will be submitted to the Owner (or Owner's representative) for approval.
- F. Screened Gravel
1. Screened gravel shall be used for pipe bedding and in the pipe as detailed and at other locations indicated on the Construction Drawings.
 2. Screened gravel shall consist of hard, durable, rounded or sub-angular particles of proper size and gradation and shall be free from sand, loam, clay, excess fines and deleterious materials. The gravel shall be graded within the following limits:

<u>Sieve Size</u>	<u>Percent Finer by Weight</u>
5/8-in	100
1/2-in	40 to 100
3/8-in	15 to 45
No. 10	0 to 5

G. Sand

1. Sand shall conform to ASTM C33 for fine aggregate.

H. Habitat Feature Materials

1. Gradation 1

<u>Sieve Size</u>	<u>Percent Finer by Weight</u>
6-in	100
3-in	40 to 55
1/4-in	10 to 20
No. 200	0 to 5

2. Gradation 2

<u>Sieve Size</u>	<u>Percent Finer by Weight</u>
6-in	100
3-in	40 to 55
1-in	10 to 20
No. 200	0 to 5

3. Gradation 3

<u>Sieve Size</u>	<u>Percent Finer by Weight</u>
2-foot	100
1-foot	40 to 55
6-in	5 to 10
No. 200	0 to 3

I. Erosion Control Blanket

1. Erosion control blanket shall be used as indicated on the Construction Drawings and shall conform to the following requirements:
 - a. Minimum grab strength of 120 lbs. per ASTM D1682.
 - b. Apparent opening size to be equal to or greater than the U.S. Standard Sieve No. 100 (0.210 mm) per ASTM D4751.

- c. Percent open area not to exceed about 25 percent. The percent open area is defined as the ratio of the sum of 20 or more individual open areas (times 100) to the sum of the corresponding 20 or more individual total areas.
- d. Coefficient of permeability shall not be less than 0.2 cm/sec.
- e. Erosion control blanket shall be Mirafi, Type 140N, Dupont, Type PAR, Style 3401 or an approved equal.

PART 3 - EXECUTION

3.01 ROCK AND BOULDER EXCAVATION

- A. Rock excavation shall be understood to mean ledge rock which in the opinion of the Owner (or Owner's representative) requires for its removal, drilling and blasting, hydraulic hammering, wedging, sledging or barring and boulders which in the opinion of the Owner (or Owner's representative) require blasting for removal. Rock excavation shall be made to the widths and depths directed by the Owner (or Owner's representative) in the field.
- B. Boulder excavation shall be understood to mean only boulders in any kind of excavation exceeding 1 cu yd in volume which can be excavated without resorting to blasting.
- C. All blasting operations shall be conducted in full compliance with all the laws of the State, all local ordinances and with all possible care so as to avoid injury to persons and property. The rock shall be well covered and sufficient warning shall be given to all persons, business and communities in the vicinity of the work before blasting. Care shall be taken to avoid injury to all water pipes, gas pipes, or other structures and to public and private property. In addition, to observing all municipal and other ordinances relating to the storage and handling of explosives, conform to any further regulations which the Owner (or Owner's representative) shall deem necessary.
- D. If rock below grade is shattered or otherwise compromised or left upset, on account of holes having been drilled too deep or too heavy charges of explosives used or for any other reasons due to blasting, and if, in the opinion of the Owner (or Owner's representative), said compromised rock is unfit for foundation bearing or could result in settlement, the shattered rock shall be removed and the excavation refilled as required by the Owner (or Owner's representative) at the expense of the Contractor.
- E. Where rock is encountered, it shall be uncovered or exposed and quantified by the Owner (or Owner's representative) prior to any removal.
- F. Payment for rock and boulder excavation shall be included in the appropriate bid items if provided.

3.02 EXCAVATION BELOW GRADE

- A. If any excavation is performed below the limits shown on the Construction Drawings, specified, or directed by the Owner (or Owner's representative), it shall be refilled at the Contractor's expense with 8-inch layers of compacted structural fill or other material satisfactory to the Owner (or Owner's representative). The type of material to be used shall be at the Owner's (or Owner's representative) discretion.

- B. If in the opinion of the Owner (or Owner's representative) care is not taken in the control and/or disposal of groundwater or surface water, or if excavation procedures are unfitting or deficient, the Contractor shall remove the unsuitable material and replace it with compacted structural fill, or other approved material at Contractor's own expense so that the condition of the subgrade meets with the approval of the Owner (or Owner's representative) before subsequent work will be allowed to proceed. Smooth bucket cutting edges or smooth cut bucket positioning techniques will be used to achieve the finished cut at foundation bottom elevations. No vertical tooth cuts into the subgrade will be allowed.
- C. If, in the opinion of the Owner (or Owner's representative), the undisturbed soil, at or below the bottom of the excavation as indicated on the Construction Drawings is unsuitable for foundations, it shall be removed and replaced with suitable material as directed by the Owner (or Owner's representative). Additional compensation will be made at the unit price established in the Base Bid, or if no Bid Item exists, the unit price will be negotiated.

3.03 STRUCTURE EXCAVATION

- A. Excavations shall be made to the grades/elevations shown on the Construction Drawings and to such widths to provide adequate space for construction of the improvements. Additional and adequate space will be provided for sheeting, shoring bracing and supporting, pumping, draining and backfilling/compacting. The bottom of the excavations shall be firm, undisturbed and dry and in a form acceptable to the Owner (or Owner's representative).
- B. Sheeting, shoring bracing, excavation and dewatering methods shall preserve and maintain the bearing capacity of the undisturbed subgrade soils. Exposed subgrades shall be compacted with at least two passes of the specified equipment. The Owner (or Owner's representative) shall waive this requirement if, in his/her opinion, the bearing capacity of the subgrade will be diminished by compaction. Subgrade soils which begin to "pump", are soft, loose, "quick," or otherwise unsatisfactory for support of structures as a result of inadequate excavation, dewatering, proof-rolling, or other detrimental construction methods shall be removed and replaced with structural fill as required by the Owner (or Owner's representative) at the Contractor's expense.
- C. Dewatering and seepage control shall be implemented to prevent boiling or under-seepage at the base of the excavation.
- D. The Contractor shall provide excavation equipment satisfactory for safely and efficiently carrying out the work. In no case shall the earth be disturbed below grade, the last of the excavated material will be removed with pick and shovel or an approved mechanical method (smooth cutting edge bucket) just before placing of concrete.
- E. Prior to excavation for foundations reaching design depths, the Owner (or Owner's representative) shall be notified and will inspect the excavation and subgrade conditions. If the Contractor has performed the work per these specifications, and if materials and conditions are not satisfactory to the Owner (or Owner's representative), the Owner will issue instructions as to the corrective procedures, and if additional costs are involved, adjustments of the Contract Price will be made on the basis of unit prices agreed upon by the Owner and the Contractor in accordance with the provisions of the Contract Documents.

- F. During final excavation to subgrade level, the Contractor will take necessary precautions to prevent disturbance and remolding. Soils that have become soft and/or mixed with water shall be removed. Hand excavation, or an approved mechanical method (smooth cutting edge bucket), of the final 3 to 6-inches will be required as necessary to obtain a satisfactory undisturbed subgrade. The Owner (or Owner's representative) will be the sole judge as to whether the work has been accomplished satisfactorily.

3.04 EXCAVATION AND BACKFILLING FOR FOUNDATIONS AND UNDER-SLAB TRENCHES

- A. Excavation for all pipelines beneath structures and excavation for all footings shall be carried out "in-the-dry" and in a manner which will preserve the undisturbed state of the subgrade soils and adjacent slopes. The excavations may be completed with sheeting, shoring and bracing or open sloped cuts.
- B. All excavation beneath structures and planned improvements shall be backfilled and compacted with structural fill. Where it is impractical to use large equipment for compaction or when such methods, in the opinion of the Owner (or Owner's representative), are disturbing the surrounding natural subgrade, the fill shall be compacted using hand-operated mechanical compactors. The lift thickness shall not exceed 6-inches measured before compaction when hand-operated equipment is used.

3.05 MISCELLANEOUS EXCAVATION

- A. Miscellaneous excavations include (but are not limited to) those necessary for the placing of loam and plants, for regrading open areas with pervious groundcover and any other miscellaneous earth excavation required under this Contract.
- B. Miscellaneous excavations will be performed to the Owner's (or Owner's representative) satisfaction.

3.06 BACKFILLING - COMMON FILL/SELECT COMMON FILL

- A. Select Common Fill and Common Fill may be used as backfill in open areas or areas which receive no hardscape or structures above; fill against vertical, reinforced concrete exterior walls of structures as indicated on the Construction Drawings; as embankment fill; or in other areas as designated by the Owner (or Owner's representative). Material conforming to the requirements of common fill shall be placed in lift thicknesses not to exceed two times the largest aggregate size, or 6 inches, whichever is smaller.
- B. Select Common Fill and Common Fill shall be compacted to at least 90 percent of maximum density as determined by ASTM D1557, Method D with moisture content between minus 2 percent to plus 3 percent of optimum.
- C. Soils or materials placed in fill areas shall be deposited to the grades shown on the Construction Drawings, making an allowance for settlement of the material and for placing topsoil or other groundcover.

- D. The surfaces of filled areas shall be graded smooth to grades indicated in the Construction Drawings or to match existing grades and no un-compacted areas or undulations will be allowed in the work.
- E. No compacting shall be performed when the soil is overly wet either from rain or from excess application of water. At such times, work shall be suspended until the previously placed and new materials have been processed or dried sufficiently to permit proper compaction and grading.

3.07 BACKFILLING - STRUCTURAL FILL

- A. Structural fill shall be placed and compacted in layers no greater than 8-inches in open areas and 6-inches in confined areas. Layer thickness is measured before compaction. Each layer of fill shall be compacted to at least 95 percent of maximum dry density at minus 1 to plus 3 percent of optimum moisture, determined by the ASTM D1557, Method D by methods approved by the Owner (or Owner's representative). The limits of structural fill adjacent to structures and under pavements shall extend as shown on the Construction Drawings or at a 1:1 slope to the subgrade elevation.
- B. Compaction of structural fill in open areas shall consist of a heavy vibratory roller, or any method approved by the Owner (or Owner's representative). Compaction of structural fill in confined areas shall be accomplished by hand operated vibratory equipment or mechanical tampers approved by the Owner (or Owner's representative). Only lightweight compaction equipment shall be used within 2 ft of structure walls. As a minimum, compaction of structural fill shall consist of four coverages of the approved equipment.
- C. Subgrade corrections are required below all structures, as indicated on the Construction Drawings, and shall consist of structural fill (12-inches minimum) or as specified on the Construction Drawings.

3.08 EMBANKMENT FILL

- A. Proposed Embankment Fill shall be constructed as shown on the Construction Drawings.
- B. Embankment fill shall consist of Common Fill or Select Common Fill. Embankment fill shall be placed in layers having a maximum thickness of 8 inches, measured before compaction. Each layer of fill shall be compacted to at least 95 percent of maximum dry density at minus 2 to plus 3 percent of optimum moisture, determined by the ASTM D1557, Method D by methods approved by the Owner (or Owner's representative).
- C. The Embankment Fill shall be keyed and benched as shown in the Construction Drawings or at a minimum of 6 foot wide benches sloped at 3% into the embankment in vertical lifts no greater than 3 feet.

3.09 HABITAT STRUCTURE AGGREGATE

- A. All habitat structure aggregate will be placed by an excavator, backhoe, crane or other similar setting method as to not disturb the material below it. No dozing or pushing of aggregate into place will be allowed. Once placed, the aggregate will be tamped or pressed by using gentle force of the excavator bucket. No vibratory or impact

compaction equipment will be used to consolidate the aggregate unless otherwise directed by the Engineer.

END OF SECTION

SECTION 02220

TRENCHING, BACKFILLING AND COMPACTION

PART 1 GENERAL

1.01 STATUTORY REQUIREMENTS

- A. The work of this Section shall comply with current versions, with revisions, of the following:
 - 1. Construction Safety Orders, Division of Industrial Safety, State of California.
 - 2. California Department of Transportation Traffic Manual.
- B. The Contractor shall comply with the provisions for "Sheeting, Shoring, and Bracing" in Section 02400.

1.02 SCOPE OF WORK

- A. Furnish all labor, materials, equipment and incidentals required and perform all trenching for maintenance access structures and appurtenances, including drainage, filling, backfilling, disposal of surplus material and restoration of trench surfaces and easements.
- B. Excavation shall extend to the width and depth shown on the Drawings or as specified herein and shall provide suitable room for installing maintenance access structures and appurtenances.
- C. Furnish and place all sheeting, bracing and supports and remove from the excavation all materials, which the Owner may deem unsuitable for backfilling. The bottom of the excavation shall be firm, dry and in all respects, acceptable. If conditions warrant, deposit sand for pipe bedding, or stabilized subgrade for excavation below grade, directly on the bottom of the trench immediately after excavation has reached the proper depth and before the bottom of the trench has become softened or disturbed by any cause whatever.
- D. Wherever the requirement for a specified percent compaction is referred to herein it shall mean "at least the specified percent of maximum dry density as determined by ASTM D1557 and method of measuring the maximum dry density compaction".
- E. Prior to the start of work, submit the proposed method of backfilling and compaction to the Owner for review.
- F. A certified "Competent Person" shall be on-site during all sheeting, shoring, and bracing activities. The Contractor shall submit a copy of the "Competent Person" certification to the Owner.

1.03 RELATED WORK

- A. Dewatering and Drainage is included in Section 02140.
- B. Granular and Rock Materials is included in Section 02230.
- C. Sheeting, Shoring, and Bracing is included in Section 02400.
- D. Pavement repair and resurfacing is included in Section 02575.

1.04 APPLICABLE AREAS

- A. Habitat structure base, groin and aprons.

1.05 SUBMITTALS

- A. Submit certification for "competent person".
- B. Submit test results and certifications for imported topsoil.
- C. Submit report from a testing laboratory verifying that imported fill/backfill material is free of asbestos and meets the specified gradations or characteristics for structural fill, common fill, select common fill, pea gravel, granular material, imported sand and rock for foundation stabilization.
- D. Submit sheeting, shoring, bracing and excavation plans signed by a licensed geotechnical or civil engineer, registered in the State of California.

1.06 TESTING FOR COMPACTION

- A. Tests specified below will be performed by the Owner's Representative during the progress of the work to determine compliance with the compaction requirements specified, and the Contractor shall cooperate and provide adequate notice, time and access to perform such tests by providing the labor and equipment necessary to obtain said tests at the required depth and allowing a reasonable time to collect the test data.
- B. Laboratory and field compaction testing by the Owner is for verification that contract requirements are met and is not for the Contractor's quality control. Contractor is responsible for adequacy of all fill and backfill materials meeting contract requirements.
- C. The following test methods may be used to determine if the technical specifications have been satisfied;
 - 1. Determine the density of soil in place by the sand cone method, ASTM D 1556 or by nuclear methods, ASTM D 2922 and D 3017.
 - 2. Determine laboratory moisture-density relationships of soils by ASTM D 1557.
 - 3. Determine the relative density of cohesion less soils by ASTM D 4253 and D 4254.
 - 4. Sample backfill materials by ASTM D 75.
 - 5. Testing will be performed at depths and intervals at the discretion of the Engineer.
- D. "Relative compaction" is the ratio, expressed as a percentage, of the in place dry density to the laboratory maximum dry density.
 - A. Any test below the specified relative compaction shall be considered not to comply with the specifications. The area shall be reworked and/or rerolled until all tests in the area meet the specified relative compaction. This may include but is not limited to the removal of soil or fill, processing it to achieve the proper moisture content and re-placement and re-compaction.

- F. Where compaction tests indicate a failure to meet the specified compaction requirements, the Owner (or Owner's representative) will take additional tests at field determined intervals in each direction until the extent of the failing area is identified. The entire area between locations that have passed the tests will be re-worked until the specified compaction has been achieved. The Contractor shall pay the actual cost of all soil re-tests.
- G. The Contractor shall submit procedure(s) for the placement of backfill to achieve the required compaction. A test section shall be selected at the beginning of the project to experiment with proposed compaction procedures, using the equipment the Contractor plans to use on the project. Based on the results of the test section, the procedure(s) may be used or revised for the duration of the project. The procedure(s) shall describe maximum lift thickness and number of passes of the compaction equipment. Periodic monitoring and testing will be performed by the Owner (or Owner's representative) to determine that the requirements of the specification are met.
- H. Relative density is the density of in-place sand or gravel, expressed as a percentage and calculated in accordance with the formula in ASTM D4254.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 TRENCH EXCAVATION

- A. Trench excavation shall include material of every description and of whatever substance encountered. Pavement shall be cut with a saw, wheel or pneumatic chisel along straight lines before excavating.
- B. Strip and stockpile topsoil from fields crossed by trenches. The top two feet shall be separately stockpiled as topsoil. At the Contractor's option and with approval by the Owner, topsoil may be otherwise disposed of and replaced, when required, with imported topsoil of equal quality.
- C. While excavating and backfilling is in progress, traffic shall be maintained, and all utilities and other property protected as provided in the General Conditions and Special Conditions.
- D. Trenches shall be excavated to the depth indicated on the Drawings and in widths sufficient for installing the maintenance access structures, bracing and for pumping and drainage facilities. The bottom of the excavations shall be firm and dry and in all respects acceptable to the Owner. Trench width shall be within the limits indicated.
- E. Excavation and dewatering shall be accomplished by methods, which preserve the undisturbed state of subgrade soils. The trench may be excavated by machinery to, or just below the designated subgrade, provided that material remaining in the bottom of the trench is no more than slightly disturbed. Subgrade soils, which become soft, loose, "quick", or otherwise unsatisfactory as a result of inadequate excavation, dewatering or other construction methods shall be removed and replaced by stabilized subgrade as required by the Owner at the Contractor's expense.

- F. Clay and organic silt soils are particularly susceptible to disturbance due to construction operations. When excavation is to end in such soils, use care during the excavation of the last 1-ft of depth.
- G. At the end of each day, all open trenches within the public right-of-way shall be backfilled or steel plated with decking and adequate trench bracing to facilitate the next day's work.

3.02 DISPOSAL OF MATERIALS

- A. Excavated material shall be stacked without excessive surcharge on the trench bank or obstructing free access to hydrants and gate valves. Inconvenience to traffic and abutters shall be avoided. Excavated material shall be segregated for use in backfilling as specified below.
- B. Surplus excavated material shall become the property of the Contractor. Removal and disposal of this material is the responsibility of the Contractor. Dispose surplus material in approved, designated areas in conformance with legal requirements.
- C. Should conditions make it impracticable or unsafe to stockpile material adjacent to the trench, the material shall be hauled and stored at a location to be approved. When required, it shall be re-handled and used in backfilling the trench.

3.03 SHEETING, SHORING AND BRACING

- A. The Contractor shall furnish, put in place and maintain sheeting, shoring and bracing required by Federal, State or local safety requirements to support the sides of the excavation and prevent loss of ground which could endanger personnel, damage or delay the work or endanger adjacent structures.
- B. All sheeting, shoring and bracing shall be in accordance with Section 02400.

3.04 EXCAVATION BELOW GRADE AND REFILL

- A. Whatever the nature of unstable material encountered or the groundwater conditions, trench drainage shall be complete and effective and shall meet the requirements of Section 02140.
- B. If the Contractor excavates below grade through error or for the Contractor's own convenience, or through failure to properly dewater the trench, or disturbs the subgrade before dewatering is sufficiently complete, he may be directed by the Engineer to excavate below grade as set forth in the following paragraph, in which case the work of excavating below grade and furnishing and placing the refill shall be performed at his own expense.
- C. If the material at the level of trench bottom consists of fine sand, sand and silt or soft earth which may work into the sand bedding notwithstanding effective drainage, the subgrade material shall be removed to the extent directed by the Owner and the excavation refilled with stabilized subgrade. Stabilized subgrade shall then be placed in 6-inch layers thoroughly compacted up to the normal grade of the structure and/or pipe. Filter layer, refill material and bedding material shall be mechanically compacted to meet the requirements of Section 3.05. This item will be paid as an addition or deduction per the bid form.

3.05 BACKFILLING

- A. Bedding shall be placed and compacted as indicated on the drawings within the trench to form a bedding layer to receive the maintenance access structures as indicated. The bedding layer shall

be true to line and grade and shall be as a minimum compacted by at least two (2) passes of a flat plate vibratory compactor, vibrating plate attached to a backhoe, or an alternate suitable to the Owner.

- B. As soon as practicable after the maintenance access structures have been laid and jointed and has been inspected by the Owner, backfilling shall begin and thereafter be prosecuted expeditiously. Backfill material, as specified, shall be compacted to percent of maximum dry density per ASTM D1557 as listed below:

Backfill Location within Trench	Non Roadway Areas	Pavement Areas
Pipe Zone Material	90%	90%
Above Pipe Zone	90%	90%
Top 12" of Trench	90%	95%

- C. The placement of bedding material shall be in even layers, not-to-exceed 8-inches on each side of the maintenance access structure, the difference in level on either side of the structure not exceeding four (4) inches. Compaction of bedding shall be by tamping or vibrating with mechanical equipment and shall be approved by the Owner.
- D. The Contractor shall exercise care in the placement and compaction of bedding and backfill. It shall be the Contractor's responsibility to repair or replace pipe and/or any structures in which are broken or damaged by the Contractor's action at no extra cost to the Owner.
- E. Where the structures are installed outside of roadway right-of-way, the remainder of the trench shall be filled with trench backfill material in layers not-to-exceed 8-inches compacted to the percent shown above and mounded 6-inches above the existing grade or as directed. Where a loam or topsoil surface exists prior to cross-country excavations, it shall be removed, conserved and replaced to the full original depth as part of the work under the maintenance access structure bid items. In some areas it may be necessary to remove excess material during the clean-up process, so that the ground may be restored to its original level and condition.
- F. Where the maintenance access structures are installed in streets, the remainder of the trench up to the bottom of the specified aggregate base shall be backfilled with trench backfill material in layers not-to-exceed 8-inches and thoroughly compacted to percent shown above. The subbase layer for paving shall be of aggregate base material thoroughly compacted in 6-inch layers to the percent shown above, shall meet the requirements of applicable encroachment permit(s) and shall additionally have a minimum thickness as indicated.
- G. Backfill shall be brought up evenly within the trench as specified for each zone. Each layer of backfill material shall be thoroughly compacted by rolling, tamping, or vibrating with mechanical compacting equipment carefully selected to prevent damage to the maintenance access structures and appurtenances or hand directed mechanical tamping. If rolling is employed, it shall be by use of a suitable roller or tractor, being careful to compact the fill throughout the full width of the trench. Jetting or flooding of trench backfill is not permitted.
- H. For sand specified for bedding and pipe backfill, the Contractor shall demonstrate in test section methods and equipment proposed to achieve the desired level of compaction. An acceptable compaction result must be achieved prior to further construction efforts being undertaken. All

trenching, structure laying and installation shall be limited to the test section until acceptable compaction results have been achieved. Compaction methods for sand can include pre-moistened sand compacted by vibratory equipment. Jetting and/or flooding methods shall not be used to achieve the compaction. The methods used in the test section that resulted in acceptable compaction shall then be used throughout the project, unless unacceptable compaction is found. Then, a new compaction method shall be demonstrated by the Contractor prior to resuming further backfill and compaction operations.

- I. Where other methods are not practicable, compaction shall be by use of hand or pneumatic ramming with tools weighing at least 20-lbs. The material being spread and compacted in layers shall not be over 6-inches thick. If necessary, sprinkling shall be employed in conjunction with rolling or ramming.
- J. The in-place density of the backfill will be tested by the Project Geotechnical Engineer using either a nuclear density gauge (D1557), modified sand cone test (ASTM D1556), or water balloon test (ASTM D2167), as appropriate for the type of backfill material being tested. At the discretion of the Owner, the in-place density testing of gravel bedding or backfill may be performed in the trench or on a test pad constructed by the Contractor using equipment and methods similar to those used to compact the gravel in the trench. The Contractor shall furnish all labor, tools, equipment, materials and incidentals required to prepare the trench location(s) or test pad(s) for compaction testing by the Project Geotechnical Engineer at no additional cost to the Owner. The number and location of such testing sites shall be at the sole discretion of the Project Geotechnical Engineer and shall be appropriate to the progress of the work and satisfactory compaction results achieved.
- K. Subject to the approval of the Owner, fragments of ledge and boulders smaller than 4-inches may be used in trench backfill providing that the quantity in the opinion of the Owner is not excessive. In no case shall the rock fragments exceed 15 percent of the backfill volume. Rock fragments shall not be placed until the pipe has at least 2-feet of earth cover. Small stones and rocks shall be placed in thin layers alternating with earth to ensure that all voids are completely filled. Fill shall not be dropped into the trench in a manner that will endanger the structure.
- L. Bituminous paving shall not be placed in backfill.
- M. All paved road surfaces shall be broomed and hose-cleaned immediately after backfilling. Dust control measures shall be employed at all times.
- N. At the Contractor's option, imported sand backfill can be installed in lieu of pipe zone backfill. No additional compensation shall be made to the Contractor.

3.06 RESTORING TRENCH SURFACE

- A. Where the trench occurs adjacent to paved streets, in shoulders, sidewalks, or in cross-country areas, thoroughly consolidate the backfill and maintain the surface as the work progresses. If settlement takes place, immediately deposit additional fill to restore the level of the ground.
- B. In and adjacent to streets, the top layer of trench backfill shall consist of aggregate base material compacted to 95% relative compaction to the indicated depth.
- C. The surface of any driveway or any other area which is disturbed by the trench excavation and which is not a part of the paved road shall be restored to a condition at least equal to that existing before work began.

- D. Place slurry seal over the permanent asphalt concrete surfacing as indicated on the drawings.

END OF SECTION

SECTION 02222

PROTECTING EXISTING UNDERGROUND UTILITIES

PART 1 GENERAL

1.01 GENERAL

- A. This section describes materials and procedures for protecting existing underground utilities.

1.02 RELATED WORK DESCRIBED ELSEWHERE

- A. Trenching, Backfilling, and Compacting: Section 02220.

1.03 SUBMITTALS

- A. Submit drawings and calculations for support and protection at the pipeline crossings larger than 20-inch or for any structures within 25 feet of the work at least 10 days prior to excavation of crossing.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL

- A. Replace in kind street improvements, such as curbs and gutters, ramps, barricades, fences, signs, mail boxes, etc., that are cut, removed, damaged, or otherwise disturbed by the construction.
- B. Where utilities are parallel to or cross the excavation limits but do not conflict with the permanent work to be constructed, follow the procedures given below and as indicated on the Drawings. Notify the utility owner 48 hours in advance of the crossing construction and coordinate the construction schedule with the utility owner's requirements. Obtain agency approval before submitting shop drawings for review.
- C. Determine the true location and depth of utilities, service connections and points of connection, which may be affected by, or affect the work. Determine the type, material, and condition of these utilities. The Contractor shall pothole all utilities, except those previously potholed during design, and all points of connection. The potholing shall be completed for at least a 20-foot radius from the center of the proposed structure. The Contractor shall submit a set of potholing plans to the Owner prior to submitting laying diagrams. In addition, the Contractor shall expose all utilities and services, including those previously potholed in design or by the Contractor, in advance of the actual maintenance access structure excavation operations.

3.02 PROCEDURES

- A. Protect in Place: Protect utilities in place, unless abandoned, and maintain the utility in service, unless otherwise specified on the Drawings or in the Specifications.

- B Cut and Plug Ends: Cut abandoned utility lines (conduits) and plug the ends with brick and mortar or concrete plug. Plug utility lines with an 8-inch wall of brick and mortar or 8-inch concrete plug from the cut end of the pipe. Dispose of the cut pipe as unsuitable material.
- C. Contractor shall provide temporary support for all pipelines crossing the proposed trench.
- D. The Contractor's attention is called to thrust blocks on water lines throughout the Work whose thrust is in the direction of the trench excavation and, therefore, may be affected by the construction of the maintenance access structures. Protect thrust blocks in place or shore to resist the thrust by a means acceptable to the Owner, and reconstruct.

3.03 ABANDONED UTILITIES

- A. Remove and dispose of abandoned utilities within the trench excavation.

END OF SECTION

SECTION 02270

SEDIMENTATION AND EROSION CONTROL

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. The Contractor shall assume sole, complete, and continuous responsibility for storm water runoff management and erosion/sedimentation control at the structure sites during construction.
- B. The Contractor shall fully comply with all applicable state and local regulations and requirements related to storm water management and sedimentation and erosion control.
- C. The Contractor shall furnish all labor, materials, equipment, and incidentals necessary to perform all installation, maintenance, removal, and area cleanup related to erosion control devices and practices necessary to prevent the movement of sediment from the construction site to off-site areas including surface waters, storm drains, and flood control facilities.
- D. The Contractor shall implement Best Management Practices (BMP) and methods described in the California Storm Water Best Management Practice Handbook. Project BMPs shall include, but not be limited to good housekeeping practices and erosion and sedimentation control to prevent the direct and indirect contribution of any contaminants into the storm drain system or waters of the United States.
- E. All costs associated with storm water management and erosion/sedimentation control shall be included in the bid price including all County, City, and County Flood Control permit and inspection fees, if any. No additional charges to the Owner will be considered.
- F. The Contractor shall provide a Storm Water Pollution Prevention Plan (SWPPP) prepared by a Certified preparer in case the project footprint is in excess of 1 acre.

1.02 RELATED WORK

- A. Trenching, backfill and compaction are included in Section 02220.
- B. Granular fill materials are included in Section 02230.

1.03 SUBMITTALS

- A. At least five (5) working days prior to the start of any work with the potential to cause water pollution, submit to the Owner for approval, in accordance with Section 01300, technical product literature for all commercial products to be used for storm water management and erosion/sedimentation control.

1.04 QUALITY ASSURANCE

- A. The Contractor shall be responsible for the timely installation of all storm water management and erosion/sediment control devices and practices necessary to prevent the movement of sediment from the construction site to off-site areas or into waterways via surface runoff or underground drainage systems. Measures necessary to prevent the movement of sediment off

site shall be installed, maintained, removed, and cleaned up at the expense of the Contractor. No additional charges to the Owner will be considered.

PART 2 PRODUCTS

2.01 MATERIALS

- A. The Contractor shall use the *California Storm Water Best Management Practice Handbook for Construction Activity*, most recent edition, as a reference in selecting appropriate BMPs for the sites. Materials used shall be in conformance with this handbook.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Work with the potential to cause water pollution shall not begin until the Owner has approved the storm water management plan.
- B. Storm water management and erosion/sediment controls shall be installed in accordance with the approved storm water management plan and the procedures and requirements described in the *California Storm Water Best Management Practice Handbook for the Construction Activity*, most recent edition.

3.02 MAINTENANCE AND INSPECTIONS

- A. Inspections
 - 1. Make a visual inspection of all devices as necessary to ensure proper operation but not less than once per week and promptly after every rainstorm. If such inspection reveals that additional measures are needed to prevent movement of sediment to off-site areas, promptly install additional devices as needed. Sediment controls in need of maintenance shall be repaired promptly.
 - 2. Storm water inspections shall be conducted to evaluate BMP effectiveness and implement repairs or design changes as soon as feasible. If such inspections reveal that additional measures are needed to prevent movement of sediment to off-site areas, promptly install additional devices as needed.
 - 3. Inspections are required prior to a forecast storm, after a rain event that causes runoff from the construction site, at 24-hr intervals during extended rain events, and when required by the Owner.
- B. Maintenance
 - 1. Routine maintenance consisting of debris removal, silt/sediment removal, clearing of vegetation around flow control devices to prevent clogging, and maintenance of healthy vegetative cover, shall be performed.
 - 2. Maintenance of BMPs shall be per the *California Storm Water Best Management Practice Handbook for the Construction Activity*, most recent edition.

3.03 REMOVAL AND FINAL CLEANUP

- A. Once the site has been fully stabilized against erosion, remove sediment control devices and all accumulated silt. Dispose of silt and waste materials in proper manner. Regrade all areas disturbed during this process and stabilize against erosion with surfacing materials or permanent BMPs.

END OF SECTION

SECTION 02400

SHEETING, SHORING AND BRACING

PART 1 GENERAL

1.01 WORK OF THIS SECTION

- A. Provide protective installation consisting of sheeting, shoring, bracing, piling, wales, anchorages and fastenings, or equivalent system for protection of workers and the work.
- B. This section is intended to be general in scope and is applicable to all work of this Contract, including principally the following items as may be required in the performance of the Work:
 - 1. Sheeting, shoring, bracing, soldier beams, and lagging for trenches.
- C. Federal, State and local requirements for safety of public, workers, and property shall apply to work under this Section.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Dewatering is included in Section 02140
- B. Trenching, Backfilling and Compaction is included Section 02220

1.03 QUALITY ASSURANCE

- A. Conform to the requirements of California Code of Regulations, Title 8, Division 1, Chapter 4.
- B. Conform to the requirements of Section 6705, California Labor Code, Shoring and Bracing Drawings.
- C. Design sheeting to support lateral earth pressures equivalent to fluid pressure of $40H$ pounds/square foot above groundwater level and $40H + 80D$ psf below the Groundwater where H is the distance from ground surface to point of load and D is distance from groundwater down to point of load.
- D. Adjust lateral loading to account for dewatering and for contractor imposed surcharge on the sheeting.

1.04 CONTRACTOR SUBMITTALS

- A. The Contractor shall submit to the Owner trenching plans in accordance with Section 01300-Submittals.
- B. Prior to commencing work involving sheeting, shoring, bracing, soldier beams, and lagging, the Contractor shall file with the Owner for record one electronic PDF and two (2) hardcopies copies of herein specified design drawings, calculations, and supporting data as accepted by the CAL/OSHA. Submittals for sheeting, shoring, bracing, soldier beams, and lagging shall be submitted for record purposes and for their review and approval.
 - 1. The Contractor shall employ a California registered Civil or Structural Engineer to prepare, seal, and sign design drawings and supporting data, including calculations and

specifications, for the trench, excavation, shoring, bracing, soldier beams and lagging or equivalent systems including all components to be used for the performance of the Work.

2. Contractor and the Engineer employed by him shall submit design drawings and supporting data to CAL/OSHA pursuant to the California Code of Regulations, Title 8, Chapter 3.2, Article 2, Section 341 for review and shall make such additions and modifications as are required for Division acceptance.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Use new or used materials complying with provisions of the approved sheeting, shoring, bracing, soldier beams, and lagging design drawings. Materials shall be free from effects and damage that might in any way impair their protective function.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install sheeting, shoring, bracing, soldier beams, and lagging for trench, and structure excavation progressively as the removal of excavated material requires. Butt members to exclude groundwater and fines, preventing the erosion of voids outside sheeting. In soft, wet ground, drive sheeting to a lower level as excavation progresses so that sheeting is embedded in undisturbed earth. Bracing of sheet piling may be permitted to penetrate structural concrete only as approved in advance by the Owner.
- B. Install supports at close intervals so as to prevent displacement of the surrounding earth and to maintain safe conditions in the work area. Any damage proven to result from improper installations shall be the responsibility of the Contractor.
- C. Withdraw individual members alternately as the backfill are raised, maintaining sufficient sheeting, shoring and bracing to protect the work and workmen. Remove bracing completely. Only where unstable conditions occur in the underlying strata from any cause, and withdrawal of sheeting will endanger the Work, a portion of the sheeting, including bracing, may be left in place with approval of the Owner. Remove all wood within a zone extending four (4) feet below finished grade or bottom of trench excavations.
- D. When moveable trench bracing such as trench boxes, moveable sheeting, shoring or plates are used to support the sides of the trench, care shall be taken in placing and moving the boxes or supporting bracing to prevent movement of the structure, or disturbance of the structure bedding and backfill.
 1. When installing flexible pipe (welded steel, PVC, etc.), trench boxes, moveable sheeting, shoring or plates, any portion of these extending below mid-diameter shall be raised above this point prior to moving the box ahead. As trench boxes, moveable sheeting, shoring or plates are moved, crushed gravel shall be placed to fill any voids created and the crushed gravel and backfill shall be re-compacted to meet the requirements of Section 02220.3.05 and to provide uniform side support for the pipe.
- E. Permission will be given to use steel sheeting in lieu of wood sheeting for the entire job wherever the use of sheeting is necessary. The cost for use of sheeting will be included in the

appropriate bid items for the work and shall include full compensation for driving, bracing and later removal of sheeting.

- F. All sheeting and bracing shall be carefully removed in such manner as to not endanger the construction of other structures, utilities, or property, whether public or private. All voids left after withdrawal of sheeting shall be immediately refilled with sand by ramming with tools especially adapted to that purpose, by watering or otherwise as directed.
- G. No separate payment will be given for sheeting which has actually been left in the trench where required herein or for the convenience of the Contractor.

END OF SECTION

SECTION 02700

SURVEY

PART 1 – GENERAL

1.01 SCOPE OF WORK

- A. The Contractor shall furnish all labor, materials and equipment required to perform all construction staking required to complete the work and construct the improvements as directed in the Construction Drawings and by the Owner (or Owner's representative). This will include staking for all proposed improvements, wall alignments, over-excavations and topographic surveys (if required). This also includes pre and post inspections of the site along with video and photographic record of the pre and post conditions.

PART 2 – PRODUCTS

2.01 Aerial Topography Map (Not Required)

- A. The Contractor shall provide the services of a qualified photogrammetrist to provide aerial topography and existing planimetric data for the completed project site. The topography will be compiled at a scale of 1" = 100' with a 1' contour interval. The Contractor shall provide the necessary fieldwork to establish ground control for the aerial. The final survey will include the entire project area, including the area within the Owner's property boundaries, and extending 50 feet beyond the property boundaries. An orthogonal rectified aerial photo shall also be supplied that covers the aerial topography limits.

2.02 Field Surveying

- A. The Contractor shall provide electronic copies of all cut sheets and potholed utility locations to the Engineer. All over-excavation limit mapping and finish grading surfaces shall also be provided in AutoCAD format, along with supporting quantity calculations if requested by the Owner (or Owner's representative).

2.03 Pre and Post Site Inspections

- A. The Contractor (in the presence of the Owner) will perform a pre and post site inspection. The inspection will photograph and video all pre and post conditions of the site(s) and the photos and videos will be provided to the owner in electronic format along with any notes taken by the Contractor. The photos, videos and notes will be submitted before the final pay application is approved.

PART 3 – EXECUTION

3.01 FIELD SURVEYING

- A. The Contractor shall be responsible for establishing, protecting and maintaining vertical and horizontal control for the duration of the project. The control reference points will be reviewed by the Engineer, and shall be in agreement with the benchmark and basis of bearing identified on the construction documents. The Contractor's construction staking shall be done under the direction and supervision of a Land Survey licensed to practice in the State of California.
- B. The protection and accuracy of all Contractor stakes, alignments, and grades is the sole responsibility of the Contractor. The Owner, has the unrestricted right to check the Contractor's stakes, alignments, and grades at any time.
- C. Certifications (If Requested) – The contractor shall provide survey information to the Owner and Engineer in order to confirm that all improvements have been constructed as planned. Pipe or other confined space structures shall be surveyed at invert elevations easily accessible (inlets, outlets, turnouts, vaults etc...). Finish surfaces for all structures shall be provided including verification of positive drainage for all pads, spillways, etc. Certifications shall confirm all improvements elevations and horizontal locations have been constructed in conformance with the Plans and Specifications.

3.02 Pre and Post Site Inspections

- A. The pre and post site inspections will be performed using digital photo and video equipment.

END OF SECTION

APPENDIX A

**DRAFT INITIAL STUDY/MITIGATED
NEGATIVE DECLARATION
RESPONSE TO COMMENTS**

AND

**MITIGATION MONITORING AND
REPORTING PROGRAM**

Santa Ana Sucker Habitat Protection and Beneficial Use Enhancement Project



Draft Initial Study/Mitigated Negative Declaration Response to Comments and Mitigation Monitoring and Reporting Program

State Clearinghouse No. 2017101064



Prepared By

Santa Ana Watershed Project Authority
Contact: Ian Achimore
Technical Assistance Provided by
Orange County Water District

May 2018



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SECTION 1.0 PURPOSE

In compliance with the requirements of the California Environmental Quality Act (CEQA) Public Resources Code Section 21000 et seq. and the CEQA Guidelines, the Santa Ana Watershed Project Authority (SAWPA) has prepared an Initial Study/Mitigated Negative Declaration (IS/MND) for the Santa Ana Sucker Habitat Protection and Beneficial Use Enhancement Project (Project), State Clearinghouse No. 2017101064. The Draft IS/MND was circulated for public review from October 30, 2017 to November 28, 2017. During the public review period, comments were received on the Draft IS/MND and have been addressed in the Project's IS/MND Response to Comments as shown in Section 2.0 of this document. The following section of the document, Section 3.0, includes the Project's Mitigation Monitoring and Reporting Program.

SECTION 2.0 RESPONSES TO COMMENT LETTERS

In accordance with Section 15088 of the CEQA Guidelines, SAWPA as the Lead Agency has evaluated the comments received on the Project Draft IS/MND that was circulated for public review from October 30, 2017 to November 28, 2017. In accordance with CEQA Guidelines, SAWPA has prepared responses for each comment received. Below is a listing of the public agencies that provided comments on the Draft IS/MND. Each comment letter and individual comments are numbered so that can be cross referenced with responses.

Table 1: List of Comment Letters

Letter	Sender	Date Received
A	Native American Heritage Commission	November 2, 2017
B	County of Riverside – Department of Transportation	November 21, 2017
C	County of San Bernardino - Department of Public Works	November 28, 2017

**Comment Letter A
Native American Heritage Commission**

Comment A-1

The submitted comment references that the Tribal Cultural Resources section is not included in the table of contents.

Response A-1

SAWPA inadvertently did not include the Tribal Cultural Resources section in the table of contents. This does not change any determination of any impacts.

Comment A-2

The submitted comment references that the Tribal Cultural Resources section in the Environmental Analysis section is mis-numbered.

Response A-2

SAWPA inadvertently mis-numbered the Tribal Cultural Resources section. This does not change any determination of any impacts.

Comment A-3

The submitted comment references that in Mitigation Measure CR-2, Health and Safety Code (HSC) 7050.5 and Public Resources Code (PRC) 5097.98 are reversed. The comment notes that HSC 7050.5 addresses contacting the county coroner and PRC 5097.98 addresses contacting the Native American Heritage Commission for a Most Likely Descendent designation.

Response A-3

SAWPA inadvertently referenced incorrect sections of the Health and Safety Code and the Public Resources Code when describing Mitigation Measure CR-2. This does not change any determination of any impacts.

Santa Ana Sucker Habitat Protection and Beneficial Use Enhancement Project Section 2

From: Totton, Gayle@NAHC <Gayle.Totton@NAHC.CA.GOV> Sent: Thu 11/2/2017 8:53 AM
To: Ian Achimore
Cc:
Subject: SCH 2017101064 Santa Ana Sucker Habitat Protection and Beneficial Use Enhancement Project

Good morning Mr. Achimore,

I have reviewed the Mitigated Negative Declaration for the above referenced project. Since the document is in compliance with AB-52, I didn't want to send an official comment letter for the three tiny errors I found. All could be considered typos and can be easily corrected.

- 1- The Tribal Cultural Resources (TCR) section is not included in the Table of Contents
- 2- The TCR section in the Environmental Analysis section is mis-numbered
- 3 - In Mitigation Measure CR-2, Health and Safety Code 7050.5 and Public Resources Code 5097.98 are reversed. HSC 7050.5 addresses contacting the Coroner and HSC 5097.98 addresses contacting the NAHC for a Most Likely Descendent designation. (This one is the most important to correct) As I said, since these are small errors, they don't require a formal letter and response. I appreciate your facilitation of the corrections.

Sincerely,

Gayle Totton, M.A., Ph.D.
Associate Governmental Program Analyst
Native American Heritage Commission
(916) 373-3714

**Comment Letter B
County of Riverside – Department of Transportation**

Comment B-1

The submitted comment notes that on page 4-21 that the large boulders in the Santa Ana River above Van Buren Blvd. Bridge were not created as part of the construction of the Van Buren Blvd. Bridge project and request removal of the sentence.

Response B-1

SAWPA inadvertently referenced incorrect reason for the location of these boulders in the Santa Ana River. This does not change any determination of any impacts.

Comment B-2

The submitted comment notes that on page 2-6 that the access road winding may be within or immediately adjacent to the revegetation area that the County is nearing completion. Therefore, the County requests continued coordination with SAWPA as the Project advances into construction.

Response B-2

SAWPA will continue to coordinate with the County of Riverside Department of Transportation as the Project advances into construction.

Santa Ana Sucker Habitat Protection and Beneficial Use Enhancement Project
Section 2



Patricia Romo, P.E.
Director of Transportation

COUNTY OF RIVERSIDE
TRANSPORTATION AND
LAND MANAGEMENT AGENCY

Transportation Department

Mojahed Salama, P.E.
Deputy for Transportation/Capital Projects
Richard Lantis, P.L.S.
Deputy for Transportation/Planning and
Development

November 21, 2017

Ian Achimore
Santa Ana Watershed Project Authority
11615 Sterling Avenue
Riverside, CA 92503

RE: Santa Ana Sucker Habitat Protection & Beneficial Use Enhancement Project:
Notice of Intent to Adopt a Mitigated Negative Declaration -

Dear Mr. Achimore,

Riverside County Transportation Department (County) has reviewed the Draft Initial Study/Mitigated Negative Declaration (IS/MND) for the Santa Ana Sucker Habitat Protection & Beneficial Use Enhancement Project. The County has been involved in the revegetation of native plants within the construction footprint of the Van Buren Bridges, which is immediately adjacent to the Project. The restoration is nearing completion.

The County recognizes the value of the Project in furthering habitat improvements for the Santa Ana Sucker. The early coordination that has been provided by SAWPA is appreciated.

The IS/MND indicates on page 4-21 that "The large boulders were placed in the river as a part of the construction process for the current Van Buren Blvd Bridge and created the aforementioned pools as a result of scouring." Please note that boulders were **not** placed in the river as a part of construction of the Van Buren Blvd Bridge, and, we request removal of the sentence.

The IS/MND (page 2-6) indicates that the existing access road will be widened to provide for Project activities and that impacted habitat will be restored. The widening of the access road may be within or immediately adjacent to the revegetation area the County is nearing completion on. Therefore, the County requests continued coordination with SAWPA as the Project advances into construction.

Please contact Mary Zambon, Senior Transportation Planner, at mzambon@rivco.org, or at 951-955-6759 if you have any questions on our comments.

Sincerely,

A handwritten signature in cursive script that reads "Russell Williams".

Russell Williams, Environmental Division Manager

4080 Lemon Street, 8th Floor · Riverside, CA 92501 · (951) 955-6740
P.O. Box 1090 · Riverside, CA 92502-1090 · FAX (951) 955-3198

Comment Letter C
County of San Bernardino – Department of Public Works

Comment C-1

The submitted comment notes that San Bernardino County Department of Public Works has no comments related to this Project, but requests that it be included on all circulation lists for all project notices, public reviews or public hearings.

Response C-1

The comment is noted.

Santa Ana Sucker Habitat Protection and Beneficial Use Enhancement Project

Section 2

825 East Third Street, San Bernardino, CA 92415-0835 | Phone: 909.387.7910 Fax: 909.387.8109

www.SBCounty.gov



Department of Public Works

- Flood Control
- Operations
- Solid Waste Management
- Surveyor
- Transportation

Kevin Blakeslee, P.E.
Director

Transmitted via Email

November 28, 2017

Santa Ana Watershed Project Authority
Attn: Ian Achimore
11615 Sterling Avenue
Riverside, CA. 92503

File: 10(ENV)-4.01

RE: CEQA – NOTICE OF AVAILABILITY OF A MITIGATED NEGATIVE DECLARATION FOR THE SANTA ANA SUCKER HABITAT PROTECTION AND BENEFICIAL USE ENHANCEMENT PROJECT FOR THE SANTA ANA WATERSHED PROJECT AUTHORITY

Dear Mr. Achimore:

Thank you for allowing the San Bernardino County Department of Public Works the opportunity to comment on the above-referenced project. **We received this request on October 31, 2017** and pursuant to our review, we have no comments.

We respectfully request to be included on the circulation list for all project notices, public reviews, or public hearings. In closing, I would like to thank you again for allowing the San Bernardino County Department of Public Works the opportunity to comment on the above-referenced project. Should you have any questions or need additional clarification, please contact the individuals who provided the specific comment, as listed above.

Sincerely,

A handwritten signature in blue ink, appearing to read "Michael R. Perry".

Michael R. Perry
Supervising Planner
Environmental Management

MRP:PE: sr
Email: iachimore@sawpa.org

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SECTION 3.0 MITIGATION MONITORING AND PROGRAM

3.1 Introduction

The following Mitigation Monitoring and Reporting Program (MMRP) is prepared pursuant to Section 15097 of the CEQA Guidelines and Section 21081.6 of the Public Resources Code. This MMRP lists all applicable mitigation measures from the Project's IS/MND. The appropriate timing of implementation and responsible party are identified to ensure proper enforcement of the mitigation measures from the IS/MND. SAWPA will utilize a certified contractor ("Contractor") to construct the Project.

3.2 Project Description

Project Location

The Project's site is located 55 feet upstream of the Van Buren Boulevard Bridge crossing over the Santa Ana River, within City of Jurupa Valley in western Riverside County. The project site is located on the USGS Riverside West Quadrangle Range 6 West, Township 2 South, and Section 25.

Project Description

The Project would include construction of a rock groin that would be approximately 20 feet in length and 4 feet in width. The rock groin would extend approximately 5 feet into the riverbank and approximately 15 feet into the river's low flow channel. Rip rap would be used to construct the subgrade base and a combination of boulders and well graded cobbles would be used to construct the above grade portion of the groin. The Project would also include aprons of well graded pebbles, rocks and cobbles fanning out from the upstream and downstream sides of the groin. The aprons would be sloped to promote bedload movement off of and around the habitat structure. Approximately 3 large boulders would be positioned to provide cover for native fish and groin stability. Logs and branches would be anchored to the river bank to provide shade and additional cover for native fish species.

3.3 Development of Mitigation Monitoring and Reporting Program

The basic elements of the MMRP are the mitigation measures identified by each impact category addressed in Section 4.0 of the IS/MND. The development of the MMRP was based on the following procedures necessary to initiate and complete the monitoring process:

- Identification of the key periods and events in the project implementation schedule;
- Identification of the key personnel responsible for monitoring;

- Monitoring of the implementation of the mitigation measures and documentation that the measures have been properly and thoroughly implemented; and
- Development of the written document that serves as a checklist of the status of the mitigation measures.

3.4 Requirement to Approve and Implement Mitigation Monitoring and Reporting Program

Approval Procedures

SAWPA has the authority to require and enforce the provisions of California Resource Code Section 21081.6. SAWPA will be responsible for approving the MMRP and for preparing the written report documenting the implementation of project mitigation measures.

Implementation Procedures

Reporting procedures consists of establishing a record that a mitigation measure is being implemented and generally involves the following steps:

- SAWPA distributes individual reporting forms based on MMRP Checklist (Table 2 provided below) to the appropriate personnel responsible for verification of compliance.
- Personnel with reporting responsibilities will review the IS/MND, which provides general background information on the reasons for including specified mitigation measures.
- Problems or exceptions to compliance will be addressed to SAWPA by personnel as appropriate.
- Periodic meetings may be held during project implementation to report on compliance of mitigation measures.
- Responsible personnel will provide SAWPA with verification that monitoring has been conducted and ensure, as applicable, that mitigation measures have been implemented. Monitoring compliance may be documented through existing review and approval programs such as field inspection reports and plan review.

Minor changes to the MMRP, if required, would be made in accordance with CEQA and would be permitted after further review and approval by SAWPA. Such changes could include reassignment of monitoring and reporting responsibilities, program redesign to make any appropriate improvements, and/or modification, substitution or deletion of mitigation measures subject to conditions described in CEQA Guidelines Section 15162. No change will be permitted unless the MMRP continues to satisfy the requirements of Public Resources Code Section 21081.6.

Santa Ana Sucker Habitat Protection and Beneficial Use Enhancement Project Section 3

The following MMRP Checklist will be used by SAWPA to enforce mitigation measures during each phase of the Project pursuant to Section 15097 of the State CEQA Statutes and Guidelines and Public Resources Code Section 21081.6.

TABLE 2: Mitigation Monitoring and Reporting Program Checklist

Mitigation Measure	Personnel Responsible for Monitoring*	Monitoring Timing	Personnel's Name and Date Verified
Biology			
BIO-1: All vegetation removal activities will be conducted outside of the migratory bird season from March 15 to September 15.	Project Manager	During Construction	Verification By: Date:
BIO-2: After construction of the proposed project, a 0.30 acre of native vegetation habitat will be established by the Project Manager in the project area by combination of natural recruitment and pole cuttings and would be managed for five years.	Project Manager, Construction Manager, or Biologist	During and After Construction	Verification By: Date:
BIO-3: During vegetation removal activities, trees that are removed will be inspected by the Biologist to determine if nests are present. If nests are present, the nests would either be relocated and if not feasible to be relocated, a new substitute nest will be created and located outside of the work area.	Biologist	During Construction	Verification By: Date:
BIO-4: To avoid impacts to special status wildlife species, prior to any ground disturbing activities, during operation and during demobilization of construction equipment, a qualified biologist approved by CDFW will conduct a pre-construction sweep of the project site for special status wildlife species. During these surveys the biologist will: 1) inspect the project site for any special status wildlife species and prepare a list of species observed and record their activity during construction and operation of the project,	Biologist	During Construction	Verification By: Date:

**Santa Ana Sucker Habitat Protection and Beneficial Use Enhancement Project
Section 3**

Mitigation Measure	Personnel Responsible for Monitoring*	Monitoring Timing	Personnel's Name and Date Verified
<p>2) ensure that habitats within the construction activity impact area are not occupied by special status species and that the quality of that habitat is maintained,</p> <p>3) in the event of the discovery of a special status species determining if the construction activity would cause adverse impacts, and</p> <p>4) if it is determined that the project activity would have the potential to adversely affect special status species and no other measures are available to avoid adverse impacts, the biologist will require the project activity to cease in the area until the species is no longer in harm's way or is relocated outside of the construction activity impact area.</p>			
BIO-5: All excavation activities within the wetted channel will occur outside of the Santa Ana Sucker and Arroyo Chub spawning season from March to July.	Project Manager	During Construction	<p>Verification By:</p> <p>Date:</p>
<p>BIO-6: To avoid and minimize potential impacts to native fish and critical habitat, a native fish impact mitigation program will be implemented by the Biologist and will include the following measures.</p> <p>•Prior to surveys or construction activity, the project will submit the name and resumes of the qualified biologist conducting surveys. A qualified biologist in regards to Santa Ana Suckers includes those individuals that hold a section 10(a) (1) (A) Recovery Permit. In regards to Arroyo Chubs, a biologist is considered qualified if they have conducted a minimum of 30 hours of field activities with Arroyo Chubs under the supervision of a qualified biologist.</p> <p>•Prior to construction activities within the wetted channel, a qualified biologist will conduct a</p>	Project Manager, Construction Manager, or Biologist	Before, During and After Construction	<p>Verification By:</p> <p>Date:</p>

Santa Ana Sucker Habitat Protection and Beneficial Use Enhancement Project
Section 3

Mitigation Measure	Personnel Responsible for Monitoring*	Monitoring Timing	Personnel's Name and Date Verified
<p>preliminary survey of the affected water body noting habitat and any fish that are present. If native fish are present seining will be conducted to remove and relocate native fish.</p> <p>•If capture and relocation of native fish is necessary, such capture will be achieved through use of one or more of the following methods; fine mesh (2 to 4 millimeter), knot-less seine nets, fine mesh (2 to 4 millimeter) knot-less hoop nets, modified hoop nets, or similar traps or dip nets of 0.20 inch or finer mesh. The survey methods will be selected so as to minimize potential injury or mortality to native fish. Care will be taken to keep native fish in water as much as possible. Larval fishes will be kept submerged in a dip net until species is identified and released.</p> <p>•All captured native fish will be placed in ice chests filled with Santa Ana River water. The ice chest will be kept shaded at all times. The water temperature in the ice chests and condition of captured native fish will be closely monitored. Any native fish removed from the site will be relocated in suitable habitat downstream of the project site.</p> <p>•Prior to activities that may involve handling of native fish, the qualified biologist will ensure that the hands of all participants are free of sunscreen, lotion or insect repellent.</p> <p>•The qualified biologist will be present during the construction of the coffer dam to split flows between the Santa Ana River and the in-stream work area sediment removal channel.</p> <p>•The qualified biologist will submit a report to USFWS and CDFW identifying the number of any native fish species that were relocated and other measures that were taken to minimize impacts to native fish. The report will be submitted to USFWS and CDFW no more than 60 days following capture and relocation</p>			

Santa Ana Sucker Habitat Protection and Beneficial Use Enhancement Project
Section 3

Mitigation Measure	Personnel Responsible for Monitoring*	Monitoring Timing	Personnel's Name and Date Verified
activities.			
BIO-7: The Contractor will utilize designated access roads or previously disturbed areas to reach the project area or stage vehicles and equipment.	Project Manager, Construction Manager, or Biologist	During Construction	Verification By: Date:
BIO-8: Prior to removal of vegetation, access routes in and out of the project area would be flagged by the Biologist and Construction Manager.	Project Manager, Construction Manager, or Biologist	Before Construction	Verification By: Date:
BIO-9: Unpaved areas would be watered as needed by the Contractor to control dust on a continual basis.	Project Manager, or Construction Manager	During Construction	Verification By: Date:
BIO-10: All construction, site disturbance and vegetation removal would be located within the delineated construction boundaries flagged by the Biologist and Construction Manager. The storage of equipment and materials, temporary stockpiling of soil would be located within designated areas outside of habitat areas. Existing storage areas and stockpile area would be delineated on project plans.	Project Manager, Construction Manager, or Biologist	During Construction	Verification By: Date:
BIO-11: Monitor construction activities to assure that vegetation is removed only in the designated areas. Riparian areas not to be disturbed would be flagged by the Biologist. The perimeter of the work site would be adequately flagged by the Biologist and fenced by the Contractor to prevent damage to adjacent habitat.	Project Manager, Construction Manager, or Biologist	Before and During Construction	Verification By: Date:

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Mitigation Measure	Personnel Responsible for Monitoring*	Monitoring Timing	Personnel's Name and Date Verified
BIO-12: During construction, adjacent vegetation would be monitored by the Biologist for signs of plant stress.	Project Manager, Construction Manager, or Biologist	During Construction	Verification By: Date:
Cultural Resources			
CR-1: In the event unknown historic resources are encountered during construction operations, all construction operations within the vicinity of the find shall cease until the time a professional archeologist assesses the find to determine its significance.	Project Manager, or Construction Manager	During Construction	Verification By: Date:
CR-2: Project-related earth disturbance has the potential to unearth previously undiscovered human remains, resulting in a potentially significant impact. If human remains are encountered during excavation activities, all work will halt and the County Coroner will be notified (California Public Resources Code §5097.98). The Coroner will determine whether the remains are of forensic interest. If the Coroner determines that the remains are prehistoric, s/he will contact the Native American Heritage Commission (NAHC). The NAHC will be responsible for designating the most likely descendant (MLD), who will be responsible for the ultimate disposition of the remains, as required by Section 7050.5 of the California Health and Safety Code. The MLD will make his/her recommendation within 48 hours of being granted access to the site. The MLD's recommendation will be followed if feasible, and may include scientific removal and non-destructive analysis of the human remains and any items associated with Native American burials (California Health and Safety Code §7050.5). If the landowner rejects the MLD's recommendations, the landowner will rebury the	Project Manager, or Construction Manager	During Construction	Verification By: Date:

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Mitigation Measure	Personnel Responsible for Monitoring*	Monitoring Timing	Personnel's Name and Date Verified
remains with appropriate dignity on the property in a location that will not be subject to further subsurface disturbance (California Public Resources Code §5097.98).			
Geology/Soils			
GEO-1: During construction and operation of the project, Best Management Practices will be implemented by the Contractor to minimize the potential for erosion. Erosion Control Best Management Practices will include as appropriate; placement of fiber, street sweeping and vacuuming, vehicle wheel washing to prevent the transporting of sediment, establishing and implementing construction equipment delivery and storage procedures, procedures, stockpiling site requirements and solid waste management procedures.	Project Manager, or Construction Manager	During Construction	Verification By: Date:
Hazards			
HAZ-1: During construction activities, the Contractor will be required to comply with local, State and Federal laws and regulations regarding the handling and storage of hazardous substances.	Project Manager, or Construction Manager	During Construction	Verification By: Date:
HAZ-2: For heavy construction equipment operating in or near the Santa Ana River, the Contractor shall prepare a Hazardous Material Spill Prevention Plan. The Hazardous Material Spill Prevention Plan shall contain contingency plans in the event of an accidental release of hazardous substances into the environment.	Project Manager, or Construction Manager	Before Construction	Verification By: Date:
Traffic/Transportation			
T-1: The project truck hauling activities and heavy equipment mobilization and demobilization activities by the Contractor will be limited to 9:00 AM to 3:00 PM daily.	Project Manager, or Construction	During Construction	Verification By:

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Mitigation Measure	Personnel Responsible for Monitoring*	Monitoring Timing	Personnel's Name and Date Verified
	Manager		Date:
T-2: Prior to mobilization and demobilization of heavy construction equipment, the Contractor will coordinate with the City of Jurupa Valley on the need for flag men or other traffic control measures.	Project Manager	Before Construction	Verification By: Date:
T-3: Prior to hauling of materials through the City of Jurupa Valley, the Contractor will apply for and receive a haul permit.	Project Manager	Before Construction	Verification By: Date:

*Personnel List:

- Project Manager - SAWPA personnel;
- Construction Manager - SAWPA personnel, or a SAWPA consultant who inspects work and materials of construction contractors;
- Biologist - SAWPA project partner who manages and inspects the ecological resources in the project area.

APPENDIX B
FEDERAL WAGE DETERMINATIONS

General Decision Number: CA180036 05/04/2018 CA36

Superseded General Decision Number: CA20170036

State: California

Construction Types: Building, Heavy (Heavy and Dredging) and Highway

County: Riverside County in California.

BUILDING CONSTRUCTION PROJECTS; DREDGING PROJECTS (does not include hopper dredge work); HEAVY CONSTRUCTION PROJECTS (does not include water well drilling); HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.35 for calendar year 2018 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.35 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2018. The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/05/2018
1	01/12/2018
2	01/19/2018
3	02/09/2018
4	05/04/2018

ASBE0005-002 07/03/2017

	Rates	Fringes
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Asbestos Workers/Insulator (Includes the application of all insulating materials, protective coverings, coatings, and finishes to all types of mechanical systems).....	\$ 39.72	20.81
Fire Stop Technician (Application of Firestopping Materials for wall openings and penetrations in walls, floors, ceilings and curtain walls).....	\$ 26.96	17.81

ASBE0005-004 07/03/2017

	Rates	Fringes
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Asbestos Removal

worker/hazardous material
 handler (Includes
 preparation, wetting,
 stripping, removal,
 scrapping, vacuuming, bagging
 and disposing of all
 insulation materials from
 mechanical systems, whether
 they contain asbestos or not)....\$ 19.26 11.27

 * BOIL0092-003 03/01/2018

	Rates	Fringes
BOILERMAKER.....	\$ 44.07	33.52

 * BRCA0004-011 05/01/2017

	Rates	Fringes
BRICKLAYER; MARBLE SETTER.....	\$ 39.07	14.57

*The wage scale for prevailing wage projects performed in
 Blythe, China lake, Death Valley, Fort Irwin, Twenty-Nine
 Palms, Needles and 1-15 corridor (Barstow to the Nevada
 State Line) will be Three Dollars (\$3.00) above the
 standard San Bernardino/Riverside County hourly wage rate

 BRCA0018-004 07/01/2017

	Rates	Fringes
MARBLE FINISHER.....	\$ 30.93	12.95
TILE FINISHER.....	\$ 25.98	11.23
TILE LAYER.....	\$ 37.76	16.37

 BRCA0018-010 09/01/2017

	Rates	Fringes
TERRAZZO FINISHER.....	\$ 29.75	12.91
TERRAZZO WORKER/SETTER.....	\$ 36.75	13.82

 CARP0409-001 07/01/2016

	Rates	Fringes
CARPENTER		
(1) Carpenter, Cabinet Installer, Insulation Installer, Hardwood Floor Worker and acoustical installer.....	\$ 39.83	15.50
(2) Millwright.....	\$ 40.90	15.50
(3) Piledrivermen/Derrick Bargeman, Bridge or Dock Carpenter, Heavy Framer, Rock Bargeman or Scowman, Rockslinger, Shingler (Commercial).....	\$ 40.53	15.50
(4) Pneumatic Nailer, Power Stapler.....	\$ 40.09	15.50
(5) Sawfiler.....	\$ 39.83	15.50
(6) Scaffold Builder.....	\$ 31.60	15.50

(7) Table Power Saw
Operator.....\$ 40.93 15.50

FOOTNOTE: Work of forming in the construction of open cut sewers or storm drains, on operations in which horizontal lagging is used in conjunction with steel H-Beams driven or placed in pre- drilled holes, for that portion of a lagged trench against which concrete is poured, namely, as a substitute for back forms (which work is performed by piledrivers): \$0.13 per hour additional.

CARP0409-002 07/01/2016

	Rates	Fringes
Diver		
(1) Wet.....	\$ 712.48	17.03
(2) Standby.....	\$ 356.24	17.03
(3) Tender.....	\$ 348.24	17.03
(4) Assistant Tender.....	\$ 324.24	17.03

Amounts in "Rates" column are per day

CARP0409-005 07/01/2015

	Rates	Fringes
Drywall		
DRYWALL INSTALLER/LATHER....	\$ 40.40	15.03
STOCKER/SCRAPPER.....	\$ 10.00	7.17

CARP0409-008 08/01/2010

	Rates	Fringes
Modular Furniture Installer.....	\$ 17.00	7.41

ELEC0440-001 01/01/2018

	Rates	Fringes
ELECTRICIAN		
INSIDE ELECTRICIAN.....	\$ 39.77	23.24
INTELLIGENT TRANSPORTATION SYSTEMS		
Electrician.....	\$ 36.99	3%+23.18
Technician.....	\$ 27.75	3%+23.18

ZONE PAY: Zone A: Free travel zone for all contractors performing work in Zone A.
Zone B: Any work performed in Zone (B) shall add \$12.00 per hour to the current wage scale. Zone (B) shall be the area from the eastern perimeter of Zone (A) to a line which runs north and south beginning at Little Morongo Canyon (San Bernardino/Riverside County Line), Southeast along the Coachella Tunnels, Colorado River Aqueduct and Mecca Tunnels to Pinkham Wash then South to Box Canyon Road, then southwest along Box Canyon Road to Highway 195 west onto 195 south to Highway 86 to Riverside/Imperial County Line.

ELEC0440-004 01/01/2018

COMMUNICATIONS AND SYSTEMS WORK

	Rates	Fringes
Communications System		
Installer.....	\$ 32.49	3%+13.52
Technician.....	\$ 30.18	4%+11.45

SCOPE OF WORK:

Installation, testing, service and maintenance of systems utilizing the transmission and/or transference of voice, sound, vision and digital for commercial, educational, security and entertainment purposes for the following: TV monitoring and surveillance, background-foreground music, intercom and telephone interconnect, inventory control systems, microwave transmission, multi-media, multiplex, nurse call systems, radio page, school intercom and sound, burglar alarms, fire alarms, and low voltage master clock systems in commercial buildings. Communication Systems that transmit or receive information and/or control systems that are intrinsic to the above listed systems; inclusion or exclusion of terminations and testings of conductors determined by their function; excluding all other data systems or multiple systems which include control function or power supply; excluding installation of raceway systems, conduit systems, line voltage work, and energy management systems. Does not cover work performed at China Lake Naval Ordnance Test Station.

ELEC1245-001 06/01/2017

	Rates	Fringes
LINE CONSTRUCTION		
(1) Lineman; Cable splicer..	\$ 55.49	16.62
(2) Equipment specialist (operates crawler tractors, commercial motor vehicles, backhoes, trenchers, cranes (50 tons and below), overhead & underground distribution line equipment).....	\$ 44.32	3%+17.65
(3) Groundman.....	\$ 33.89	3%+17.65
(4) Powderman.....	\$ 49.55	3%+17.65

HOLIDAYS: New Year's Day, M.L. King Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day and day after Thanksgiving, Christmas Day

ELEV0018-001 01/01/2018

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 53.85	32.645

FOOTNOTE:

PAID VACATION: Employer contributes 8% of regular hourly rate as vacation pay credit for employees with more than 5 years of service, and 6% for 6 months to 5 years of service.
PAID HOLIDAYS: New Years Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

	Rates	Fringes
OPERATOR: Power Equipment (All Other Work)		
GROUP 1.....	\$ 44.00	24.25
GROUP 2.....	\$ 44.78	24.25
GROUP 3.....	\$ 45.07	24.25
GROUP 4.....	\$ 46.56	24.25
GROUP 5.....	\$ 47.66	24.25
GROUP 6.....	\$ 46.78	24.25
GROUP 8.....	\$ 46.89	24.25
GROUP 9.....	\$ 47.99	24.25
GROUP 10.....	\$ 48.01	24.25
GROUP 11.....	\$ 48.11	24.25
GROUP 12.....	\$ 47.18	24.25
GROUP 13.....	\$ 47.28	24.25
GROUP 14.....	\$ 47.31	24.25
GROUP 15.....	\$ 47.39	24.25
GROUP 16.....	\$ 47.51	24.25
GROUP 17.....	\$ 47.68	24.25
GROUP 18.....	\$ 47.78	24.25
GROUP 19.....	\$ 47.89	24.25
GROUP 20.....	\$ 48.01	24.25
GROUP 21.....	\$ 48.18	24.25
GROUP 22.....	\$ 48.28	24.25
GROUP 23.....	\$ 48.39	24.25
GROUP 24.....	\$ 48.51	24.25
GROUP 25.....	\$ 48.68	24.25
OPERATOR: Power Equipment (Cranes, Piledriving & Hoisting)		
GROUP 1.....	\$ 45.35	24.25
GROUP 2.....	\$ 46.13	24.25
GROUP 3.....	\$ 46.42	24.25
GROUP 4.....	\$ 46.56	24.25
GROUP 5.....	\$ 46.78	24.25
GROUP 6.....	\$ 46.89	24.25
GROUP 7.....	\$ 47.01	24.25
GROUP 8.....	\$ 47.18	24.25
GROUP 9.....	\$ 47.35	24.25
GROUP 10.....	\$ 48.35	24.25
GROUP 11.....	\$ 49.35	24.25
GROUP 12.....	\$ 50.35	24.25
GROUP 13.....	\$ 51.35	24.25
OPERATOR: Power Equipment (Tunnel Work)		
GROUP 1.....	\$ 41.80	23.35
GROUP 2.....	\$ 42.58	23.35
GROUP 3.....	\$ 42.87	23.35
GROUP 4.....	\$ 43.01	23.35
GROUP 5.....	\$ 43.23	23.35
GROUP 6.....	\$ 43.34	23.35
GROUP 7.....	\$ 43.46	23.35

PREMIUM PAY:

\$3.75 per hour shall be paid on all Power Equipment Operator work on the following Military Bases: China Lake Naval Reserve, Vandenberg AFB, Point Arguello, Seely Naval Base, Fort Irwin, Nebo Annex Marine Base, Marine Corp Logistics Base Yermo, Edwards AFB, 29 Palms Marine Base and Camp Pendleton

Workers required to suit up and work in a hazardous material environment: \$2.00 per hour additional. Combination mixer and compressor operator on gunite work shall be classified as a concrete mobile mixer operator.

SEE ZONE DEFINITIONS AFTER CLASSIFICATIONS

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Bargeman; Brakeman; Compressor operator; Ditch Witch, with seat or similar type equipment; Elevator operator-inside; Engineer Oiler; Forklift operator (includes loed, lull or similar types under 5 tons; Generator operator; Generator, pump or compressor plant operator; Pump operator; Signalman; Switchman

GROUP 2: Asphalt-rubber plant operator (nurse tank operator); Concrete mixer operator-skip type; Conveyor operator; Fireman; Forklift operator (includes loed, lull or similar types over 5 tons; Hydrostatic pump operator; oiler crusher (asphalt or concrete plant); Petromat laydown machine; PJU side dum jack; Screening and conveyor machine operator (or similar types); Skiploader (wheel type up to 3/4 yd. without attachment); Tar pot fireman; Temporary heating plant operator; Trenching machine oiler

GROUP 3: Asphalt-rubber blend operator; Bobcat or similar type (Skid steer); Equipment greaser (rack); Ford Ferguson (with dragtype attachments); Helicopter radioman (ground); Stationary pipe wrapping and cleaning machine operator

GROUP 4: Asphalt plant fireman; Backhoe operator (mini-max or similar type); Boring machine operator; Boxman or mixerman (asphalt or concrete); Chip spreading machine operator; Concrete cleaning decontamination machine operator; Concrete Pump Operator (small portable); Drilling machine operator, small auger types (Texoma super economatic or similar types - Hughes 100 or 200 or similar types - drilling depth of 30' maximum); Equipment greaser (grease truck); Guard rail post driver operator; Highline cableway signalman; Hydra-hammer-aero stomper; Micro Tunneling (above ground tunnel); Power concrete curing machine operator; Power concrete saw operator; Power-driven jumbo form setter operator; Power sweeper operator; Rock Wheel Saw/Trencher; Roller operator (compacting); Screed operator (asphalt or concrete); Trenching machine operator (up to 6 ft.); Vacuum or much truck

GROUP 5: Equipment Greaser (Grease Truck/Multi Shift).

GROUP 6: Articulating material hauler; Asphalt plant engineer; Batch plant operator; Bit sharpener; Concrete joint machine operator (canal and similar type); Concrete planer operator; Dandy digger; Deck engine operator; Derrickman (oilfield type); Drilling machine operator, bucket or auger types (Calweld 100 bucket or similar types - Watson 1000 auger or similar types - Texoma 330, 500 or 600 auger or similar types - drilling depth of 45' maximum); Drilling machine operator; Hydrographic seeder machine operator (straw, pulp or seed), Jackson track maintainer, or similar type; Kalamazoo Switch tamper, or similar type; Machine tool operator; Maginnis internal full slab vibrator, Mechanical berm, curb or gutter(concrete or asphalt); Mechanical finisher operator (concrete, Clary-Johnson-Bidwell or similar); Micro tunnel system

(below ground); Pavement breaker operator (truck mounted); Road oil mixing machine operator; Roller operator (asphalt or finish), rubber-tired earth moving equipment (single engine, up to and including 25 yds. struck); Self-propelled tar pipelining machine operator; Skiploader operator (crawler and wheel type, over 3/4 yd. and up to and including 1-1/2 yds.); Slip form pump operator (power driven hydraulic lifting device for concrete forms); Tractor operator-bulldozer, tamper-scraper (single engine, up to 100 h.p. flywheel and similar types, up to and including D-5 and similar types); Tugger hoist operator (1 drum); Ultra high pressure waterjet cutting tool system operator; Vacuum blasting machine operator

GROUP 8: Asphalt or concrete spreading operator (tamping or finishing); Asphalt paving machine operator (Barber Greene or similar type); Asphalt-rubber distribution operator; Backhoe operator (up to and including 3/4 yd.), small ford, Case or similar; Cast-in-place pipe laying machine operator; Combination mixer and compressor operator (gunite work); Compactor operator (self-propelled); Concrete mixer operator (paving); Crushing plant operator; Drill Doctor; Drilling machine operator, Bucket or auger types (Calweld 150 bucket or similar types - Watson 1500, 2000 2500 auger or similar types - Texoma 700, 800 auger or similar types - drilling depth of 60' maximum); Elevating grader operator; Grade checker; Gradall operator; Grouting machine operator; Heavy-duty repairman; Heavy equipment robotics operator; Kalamazoo balliste regulator or similar type; Kolman belt loader and similar type; Le Tourneau blob compactor or similar type; Loader operator (Athey, Euclid, Sierra and similar types); Mobark Chipper or similar; Ozzie padder or similar types; P.C. slot saw; Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pumpcrete gun operator; Rock Drill or similar types; Rotary drill operator (excluding caisson type); Rubber-tired earth-moving equipment operator (single engine, caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator (multiple engine up to and including 25 yds. struck); Rubber-tired scraper operator (self-loading paddle wheel type-John Deere, 1040 and similar single unit); Self-propelled curb and gutter machine operator; Shuttle buggy; Skiploader operator (crawler and wheel type over 1-1/2 yds. up to and including 6-1/2 yds.); Soil remediation plant operator; Surface heaters and planer operator; Tractor compressor drill combination operator; Tractor operator (any type larger than D-5 - 100 flywheel h.p. and over, or similar-bulldozer, tamper, scraper and push tractor single engine); Tractor operator (boom attachments), Traveling pipe wrapping, cleaning and bending machine operator; Trenching machine operator (over 6 ft. depth capacity, manufacturer's rating); trenching Machine with Road Miner attachment (over 6 ft depth capacity): Ultra high pressure waterjet cutting tool system mechanic; Water pull (compaction) operator

GROUP 9: Heavy Duty Repairman

GROUP 10: Drilling machine operator, Bucket or auger types (Calweld 200 B bucket or similar types-Watson 3000 or 5000 auger or similar types-Texoma 900 auger or similar types-drilling depth of 105' maximum); Dual drum mixer, dynamic compactor LDC350 (or similar types); Monorail

locomotive operator (diesel, gas or electric); Motor patrol-blade operator (single engine); Multiple engine tractor operator (Euclid and similar type-except Quad 9 cat.); Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Pneumatic pipe ramming tool and similar types; Prestressed wrapping machine operator; Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Rubber tired earth moving equipment operator (multiple engine, Euclid, caterpillar and similar over 25 yds. and up to 50 yds. struck), Tower crane repairman; Tractor loader operator (crawler and wheel type over 6-1/2 yds.); Woods mixer operator (and similar Pugmill equipment)

GROUP 11: Heavy Duty Repairman - Welder Combination, Welder - Certified.

GROUP 12: Auto grader operator; Automatic slip form operator; Drilling machine operator, bucket or auger types (Calweld, auger 200 CA or similar types - Watson, auger 6000 or similar types - Hughes Super Duty, auger 200 or similar types - drilling depth of 175' maximum); Hoe ram or similar with compressor; Mass excavator operator less tha 750 cu. yards; Mechanical finishing machine operator; Mobile form traveler operator; Motor patrol operator (multi-engine); Pipe mobile machine operator; Rubber-tired earth- moving equipment operator (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck); Rubber-tired self- loading scraper operator (paddle-wheel-auger type self-loading - two (2) or more units)

GROUP 13: Rubber-tired earth-moving equipment operator operating equipment with push-pull system (single engine, up to and including 25 yds. struck)

GROUP 14: Canal liner operator; Canal trimmer operator; Remote- control earth-moving equipment operator (operating a second piece of equipment: \$1.00 per hour additional); Wheel excavator operator (over 750 cu. yds.)

GROUP 15: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine-up to and including 25 yds. struck)

GROUP 16: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 17: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 50 cu. yds. struck); Tandem tractor operator (operating crawler type tractors in tandem - Quad 9 and similar type)

GROUP 18: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, up to and including 25 yds. struck)

GROUP 19: Rotex concrete belt operator (or similar types); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, up to and including 25 yds. struck)

GROUP 20: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps, and similar types in any combination, excluding compaction units - multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 21: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)

GROUP 22: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, up to and including 25 yds. struck)

GROUP 23: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating with the tandem push-pull system (multiple engine, up to and including 25 yds. struck)

GROUP 24: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 25: Concrete pump operator-truck mounted; Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)

CRANES, PILEDRIVING AND HOISTING EQUIPMENT CLASSIFICATIONS

GROUP 1: Engineer oiler; Fork lift operator (includes loader, lull or similar types)

GROUP 2: Truck crane oiler

GROUP 3: A-frame or winch truck operator; Ross carrier operator (jobsite)

GROUP 4: Bridge-type unloader and turntable operator;

Helicopter hoist operator

GROUP 5: Hydraulic boom truck; Stinger crane (Austin-Western or similar type); Tugger hoist operator (1 drum)

GROUP 6: Bridge crane operator; Cretor crane operator; Hoist operator (Chicago boom and similar type); Lift mobile operator; Lift slab machine operator (Vagtborg and similar types); Material hoist and/or manlift operator; Polar gantry crane operator; Self Climbing scaffold (or similar type); Shovel, backhoe, dragline, clamshell operator (over 3/4 yd. and up to 5 cu. yds. mrc); Tugger hoist operator

GROUP 7: Pedestal crane operator; Shovel, backhoe, dragline, clamshell operator (over 5 cu. yds. mrc); Tower crane repair; Tugger hoist operator (3 drum)

GROUP 8: Crane operator (up to and including 25 ton capacity); Crawler transporter operator; Derrick barge operator (up to and including 25 ton capacity); Hoist operator, stiff legs, Guy derrick or similar type (up to and including 25 ton capacity); Shovel, backhoe, dragline, clamshell operator (over 7 cu. yds., M.R.C.)

GROUP 9: Crane operator (over 25 tons and up to and including 50 tons mrc); Derrick barge operator (over 25 tons up to and including 50 tons mrc); Highline cableway operator; Hoist operator, stiff legs, Guy derrick or similar type (over 25 tons up to and including 50 tons mrc); K-crane operator; Polar crane operator; Self erecting tower crane operator maximum lifting capacity ten tons

GROUP 10: Crane operator (over 50 tons and up to and including 100 tons mrc); Derrick barge operator (over 50 tons up to and including 100 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 50 tons up to and including 100 tons mrc), Mobile tower crane operator (over 50 tons, up to and including 100 tons M.R.C.); Tower crane operator and tower gantry

GROUP 11: Crane operator (over 100 tons and up to and including 200 tons mrc); Derrick barge operator (over 100 tons up to and including 200 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 100 tons up to and including 200 tons mrc); Mobile tower crane operator (over 100 tons up to and including 200 tons mrc)

GROUP 12: Crane operator (over 200 tons up to and including 300 tons mrc); Derrick barge operator (over 200 tons up to and including 300 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 200 tons, up to and including 300 tons mrc); Mobile tower crane operator (over 200 tons, up to and including 300 tons mrc)

GROUP 13: Crane operator (over 300 tons); Derrick barge operator (over 300 tons); Helicopter pilot; Hoist operator, stiff legs, Guy derrick or similar type (over 300 tons); Mobile tower crane operator (over 300 tons)

TUNNEL CLASSIFICATIONS

GROUP 1: Skiploader (wheel type up to 3/4 yd. without attachment)

GROUP 2: Power-driven jumbo form setter operator

GROUP 3: Dinkey locomotive or motorperson (up to and including 10 tons)

GROUP 4: Bit sharpener; Equipment greaser (grease truck); Slip form pump operator (power-driven hydraulic lifting device for concrete forms); Tugger hoist operator (1 drum); Tunnel locomotive operator (over 10 and up to and including 30 tons)

GROUP 5: Backhoe operator (up to and including 3/4 yd.); Small Ford, Case or similar; Drill doctor; Grouting machine operator; Heading shield operator; Heavy-duty repairperson; Loader operator (Athey, Euclid, Sierra and similar types); Mucking machine operator (1/4 yd., rubber-tired, rail or track type); Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pneumatic heading shield (tunnel); Pumpcrete gun operator; Tractor compressor drill combination operator; Tugger hoist operator (2 drum); Tunnel locomotive operator (over 30 tons)

GROUP 6: Heavy Duty Repairman

GROUP 7: Tunnel mole boring machine operator

ENGINEERS ZONES

\$1.00 additional per hour for all of IMPERIAL County and the portions of KERN, RIVERSIDE & SAN BERNARDINO Counties as defined below:

That area within the following Boundary: Begin in San Bernardino County, approximately 3 miles NE of the intersection of I-15 and the California State line at that point which is the NW corner of Section 1, T17N, R14E, San Bernardino Meridian. Continue W in a straight line to that point which is the SW corner of the northwest quarter of Section 6, T27S, R42E, Mt. Diablo Meridian. Continue North to the intersection with the Inyo County Boundary at that point which is the NE corner of the western half of the northern quarter of Section 6, T25S, R42E, MDM. Continue W along the Inyo and San Bernardino County boundary until the intersection with Kern County, at that point which is the SE corner of Section 34, T24S, R40E, MDM. Continue W along the Inyo and Kern County boundary until the intersection with Tulare County, at that point which is the SW corner of the SE quarter of Section 32, T24S, R37E, MDM. Continue W along the Kern and Tulare County boundary, until that point which is the NW corner of T25S, R32E, MDM. Continue S following R32E lines to the NW corner of T31S, R32E, MDM. Continue W to the NW corner of T31S, R31E, MDM. Continue S to the SW corner of T32S, R31E, MDM. Continue W to SW corner of SE quarter of Section 34, T32S, R30E, MDM. Continue S to SW corner of T11N, R17W, SBM. Continue E along south boundary of T11N, SBM to SW corner of T11N, R7W, SBM. Continue S to SW corner of T9N, R7W, SBM. Continue E along south boundary of T9N, SBM to SW corner of T9N, R1E, SBM. Continue S along west boundary of R1E, SBM to Riverside County line at the SW corner of T1S, R1E, SBM. Continue E along south boundary of T1S, SBM (Riverside County Line) to SW corner of T1S, R10E, SBM. Continue S along west boundary of R10E, SBM to Imperial County line at the SW corner of T8S, R10E, SBM. Continue W along Imperial and Riverside county line to NW corner of T9S, R9E, SBM. Continue S along the boundary between Imperial and San Diego Counties, along the west edge of R9E, SBM to the south boundary of Imperial County/California state

line. Follow the California state line west to Arizona state line, then north to Nevada state line, then continuing NW back to start at the point which is the NW corner of Section 1, T17N, R14E, SBM

\$1.00 additional per hour for portions of SAN LUIS OBISPO, KERN, SANTA BARBARA & VENTURA as defined below:

That area within the following Boundary: Begin approximately 5 miles north of the community of Cholame, on the Monterey County and San Luis Obispo County boundary at the NW corner of T25S, R16E, Mt. Diablo Meridian. Continue south along the west side of R16E to the SW corner of T30S, R16E, MDM. Continue E to SW corner of T30S, R17E, MDM. Continue S to SW corner of T31S, R17E, MDM. Continue E to SW corner of T31S, R18E, MDM. Continue S along West side of R18E, MDM as it crosses into San Bernardino Meridian numbering area and becomes R30W. Follow the west side of R30W, SBM to the SW corner of T9N, R30W, SBM. Continue E along the south edge of T9N, SBM to the Santa Barbara County and Ventura County boundary at that point which is the SW corner of Section 34. T9N, R24W, SBM, continue S along the Ventura County line to that point which is the SW corner of the SE quarter of Section 32, T7N, R24W, SBM. Continue E along the south edge of T7N, SBM to the SE corner to T7N, R21W, SBM. Continue N along East side of R21W, SBM to Ventura County and Kern County boundary at the NE corner of T8N, R21W. Continue W along the Ventura County and Kern County boundary to the SE corner of T9N, R21W. Continue North along the East edge of R21W, SBM to the NE corner of T12N, R21W, SBM. Continue West along the north edge of T12N, SBM to the SE corner of T32S, R21E, MDM. [T12N SBM is a thin strip between T11N SBM and T32S MDM]. Continue North along the East side of R21E, MDM to the Kings County and Kern County border at the NE corner of T25S, R21E, MDM, continue West along the Kings County and Kern County Boundary until the intersection of San Luis Obispo County. Continue west along the Kings County and San Luis Obispo County boundary until the intersection with Monterey County. Continue West along the Monterey County and San Luis Obispo County boundary to the beginning point at the NW corner of T25S, R16E, MDM.

\$2.00 additional per hour for INYO and MONO Counties and the Northern portion of SAN BERNARDINO County as defined below:

That area within the following Boundary: Begin at the intersection of the northern boundary of Mono County and the California state line at the point which is the center of Section 17, T10N, R22E, Mt. Diablo Meridian. Continue S then SE along the entire western boundary of Mono County, until it reaches Inyo County at the point which is the NE corner of the Western half of the NW quarter of Section 2, T8S, R29E, MDM. Continue SSE along the entire western boundary of Inyo County, until the intersection with Kern County at the point which is the SW corner of the SE 1/4 of Section 32, T24S, R37E, MDM. Continue E along the Inyo and Kern County boundary until the intersection with San Bernardino County at that point which is the SE corner of section 34, T24S, R40E, MDM. Continue E along the Inyo and San Bernardino County boundary until the point which is the NE corner of the Western half of the NW quarter of Section 6, T25S, R42E, MDM. Continue S to that point which is the SW corner of the NW quarter of Section 6, T27S, R42E, MDM. Continue E in a straight line to the California and Nevada state border at the point which is the NW corner of Section 1, T17N, R14E, San Bernardino Meridian. Then continue NW along

the state line to the starting point, which is the center of
Section 18, T10N, R22E, MDM.

REMAINING AREA NOT DEFINED ABOVE RECIEVES BASE RATE

ENGI0012-004 08/01/2015

	Rates	Fringes
OPERATOR: Power Equipment (DREDGING)		
(1) Leverman.....	\$ 49.50	23.60
(2) Dredge dozer.....	\$ 43.53	23.60
(3) Deckmate.....	\$ 43.42	23.60
(4) Winch operator (stern winch on dredge).....	\$ 42.87	23.60
(5) Fireman-Oiler, Deckhand, Bargeman, Leveehand.....	\$ 42.33	23.60
(6) Barge Mate.....	\$ 42.94	23.60

IRON0377-002 01/01/2017

	Rates	Fringes
Ironworkers:		
Fence Erector.....	\$ 29.58	21.59
Ornamental, Reinforcing and Structural.....	\$ 36.00	30.15

PREMIUM PAY:

\$6.00 additional per hour at the following locations:

China Lake Naval Test Station, Chocolate Mountains Naval
Reserve-Niland,
Edwards AFB, Fort Irwin Military Station, Fort Irwin Training
Center-Goldstone, San Clemente Island, San Nicholas Island,
Susanville Federal Prison, 29 Palms - Marine Corps, U.S. Marine
Base - Barstow, U.S. Naval Air Facility - Sealey, Vandenberg AFB

\$4.00 additional per hour at the following locations:

Army Defense Language Institute - Monterey, Fallon Air Base,
Naval Post Graduate School - Monterey, Yermo Marine Corps
Logistics Center

\$2.00 additional per hour at the following locations:

Port Hueneme, Port Mugu, U.S. Coast Guard Station - Two Rock

LAB00300-005 01/01/2018

	Rates	Fringes
Asbestos Removal Laborer.....	\$ 33.19	17.78

SCOPE OF WORK: Includes site mobilization, initial site
cleanup, site preparation, removal of asbestos-containing
material and toxic waste, encapsulation, enclosure and
disposal of asbestos- containing materials and toxic waste

by hand or with equipment or machinery; scaffolding, fabrication of temporary wooden barriers and assembly of decontamination stations.

LAB00345-001 07/02/2017

	Rates	Fringes
LABORER (GUNITE)		
GROUP 1.....	\$ 41.08	17.39
GROUP 2.....	\$ 40.13	17.39
GROUP 3.....	\$ 36.59	17.39

FOOTNOTE: GUNITE PREMIUM PAY: Workers working from a Bosn'n's Chair or suspended from a rope or cable shall receive 40 cents per hour above the foregoing applicable classification rates. Workers doing gunite and/or shotcrete work in a tunnel shall receive 35 cents per hour above the foregoing applicable classification rates, paid on a portal-to-portal basis. Any work performed on, in or above any smoke stack, silo, storage elevator or similar type of structure, when such structure is in excess of 75'-0" above base level and which work must be performed in whole or in part more than 75'-0" above base level, that work performed above the 75'-0" level shall be compensated for at 35 cents per hour above the applicable classification wage rate.

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Rodmen, Nozzlemen

GROUP 2: Gunmen

GROUP 3: Reboundmen

LAB01184-001 07/01/2017

	Rates	Fringes
Laborers: (HORIZONTAL DIRECTIONAL DRILLING)		
(1) Drilling Crew Laborer...	\$ 34.65	13.20
(2) Vehicle Operator/Hauler.	\$ 34.82	13.20
(3) Horizontal Directional Drill Operator.....	\$ 36.67	13.20
(4) Electronic Tracking Locator.....	\$ 38.67	13.20
Laborers: (STRIPING/SLURRY SEAL)		
GROUP 1.....	\$ 35.86	16.21
GROUP 2.....	\$ 37.16	16.21
GROUP 3.....	\$ 39.17	16.21
GROUP 4.....	\$ 40.91	16.21

LABORERS - STRIPING CLASSIFICATIONS

GROUP 1: Protective coating, pavement sealing, including repair and filling of cracks by any method on any surface in parking lots, game courts and playgrounds; carstops; operation of all related machinery and equipment; equipment repair technician

GROUP 2: Traffic surface abrasive blaster; pot tender - removal of all traffic lines and markings by any method (sandblasting, waterblasting, grinding, etc.) and preparation of surface for coatings. Traffic control person: controlling and directing traffic through both conventional and moving lane closures; operation of all related machinery and equipment

GROUP 3: Traffic delineating device applicator: Layout and application of pavement markers, delineating signs, rumble and traffic bars, adhesives, guide markers, other traffic delineating devices including traffic control. This category includes all traffic related surface preparation (sandblasting, waterblasting, grinding) as part of the application process. Traffic protective delineating system installer: removes, relocates, installs, permanently affixed roadside and parking delineation barricades, fencing, cable anchor, guard rail, reference signs, monument markers; operation of all related machinery and equipment; power broom sweeper

GROUP 4: Striper: layout and application of traffic stripes and markings; hot thermo plastic; tape traffic stripes and markings, including traffic control; operation of all related machinery and equipment

LAB01184-002 07/03/2017

	Rates	Fringes
LABORER (TUNNEL)		
GROUP 1.....	\$ 39.04	18.24
GROUP 2.....	\$ 39.36	18.24
GROUP 3.....	\$ 39.82	18.24
GROUP 4.....	\$ 40.51	18.24
LABORER		
GROUP 1.....	\$ 33.19	18.24
GROUP 2.....	\$ 33.74	18.24
GROUP 3.....	\$ 34.29	18.24
GROUP 4.....	\$ 35.84	18.24
GROUP 5.....	\$ 36.19	18.24

LABORER CLASSIFICATIONS

GROUP 1: Cleaning and handling of panel forms; Concrete screeding for rough strike-off; Concrete, water curing; Demolition laborer, the cleaning of brick if performed by a worker performing any other phase of demolition work, and the cleaning of lumber; Fire watcher, limber, brush loader, piler and debris handler; Flag person; Gas, oil and/or water pipeline laborer; Laborer, asphalt-rubber material loader; Laborer, general or construction; Laborer, general clean-up; Laborer, landscaping; Laborer, jetting; Laborer, temporary water and air lines; Material hose operator (walls, slabs, floors and decks); Plugging, filling of shee bolt holes; Dry packing of concrete; Railroad maintenance, repair track person and road beds; Streetcar and railroad construction track laborers; Rigging and signaling; Scaler; Slip form raiser; Tar and mortar; Tool crib or tool house laborer; Traffic control by any method; Window cleaner; Wire mesh pulling - all concrete pouring operations

GROUP 2: Asphalt shoveler; Cement dumper (on 1 yd. or larger mixer and handling bulk cement); Cesspool digger and

installer; Chucktender; Chute handler, pouring concrete, the handling of the chute from readymix trucks, such as walls, slabs, decks, floors, foundation, footings, curbs, gutters and sidewalks; Concrete curer, impervious membrane and form oiler; Cutting torch operator (demolition); Fine grader, highways and street paving, airport, runways and similar type heavy construction; Gas, oil and/or water pipeline wrapper - pot tender and form person; Guinea chaser; Headerboard person - asphalt; Laborer, packing rod steel and pans; Membrane vapor barrier installer; Power broom sweeper (small); Riprap stonepaver, placing stone or wet sacked concrete; Roto scraper and tiller; Sandblaster (pot tender); Septic tank digger and installer(lead); Tank scaler and cleaner; Tree climber, faller, chain saw operator, Pittsburgh chipper and similar type brush shredder; Underground laborer, including caisson bellower

GROUP 3: Buggymobile person; Concrete cutting torch; Concrete pile cutter; Driller, jackhammer, 2-1/2 ft. drill steel or longer; Dri-pak-it machine; Gas, oil and/or water pipeline wrapper, 6-in. pipe and over, by any method, inside and out; High scaler (including drilling of same); Hydro seeder and similar type; Impact wrench multi-plate; Kettle person, pot person and workers applying asphalt, lay-kold, creosote, lime caustic and similar type materials ("applying" means applying, dipping, brushing or handling of such materials for pipe wrapping and waterproofing); Operator of pneumatic, gas, electric tools, vibrating machine, pavement breaker, air blasting, come-alongs, and similar mechanical tools not separately classified herein; Pipelayer's backup person, coating, grouting, making of joints, sealing, caulking, diapering and including rubber gasket joints, pointing and any and all other services; Rock slinger; Rotary scarifier or multiple head concrete chipping scarifier; Steel headerboard and guideline setter; Tamper, Barko, Wacker and similar type; Trenching machine, hand-propelled

GROUP 4: Asphalt raker, lute person, ironer, asphalt dump person, and asphalt spreader boxes (all types); Concrete core cutter (walls, floors or ceilings), grinder or sander; Concrete saw person, cutting walls or flat work, scoring old or new concrete; Cribber, shorer, lagging, sheeting and trench bracing, hand-guided lagging hammer; Head rock slinger; Laborer, asphalt- rubber distributor boot person; Laser beam in connection with laborers' work; Oversize concrete vibrator operator, 70 lbs. and over; Pipelayer performing all services in the laying and installation of pipe from the point of receiving pipe in the ditch until completion of operation, including any and all forms of tubular material, whether pipe, metallic or non-metallic, conduit and any other stationary type of tubular device used for the conveying of any substance or element, whether water, sewage, solid gas, air, or other product whatsoever and without regard to the nature of material from which the tubular material is fabricated; No-joint pipe and stripping of same; Prefabricated manhole installer; Sandblaster (nozzle person), water blasting, Porta Shot-Blast

GROUP 5: Blaster powder, all work of loading holes, placing and blasting of all powder and explosives of whatever type, regardless of method used for such loading and placing; Driller: All power drills, excluding jackhammer, whether core, diamond, wagon, track, multiple unit, and any and all other types of mechanical drills without regard to the form

of motive power; Toxic waste removal

TUNNEL LABORER CLASSIFICATIONS

GROUP 1: Batch plant laborer; Changehouse person; Dump person; Dump person (outside); Swamper (brake person and switch person on tunnel work); Tunnel materials handling person; Nipper; Pot tender, using mastic or other materials (for example, but not by way of limitation, shotcrete, etc.)

GROUP 2: Chucktender, cabletender; Loading and unloading agitator cars; Vibrator person, jack hammer, pneumatic tools (except driller); Bull gang mucker, track person; Concrete crew, including rodder and spreader

GROUP 3: Blaster, driller, powder person; Chemical grout jet person; Cherry picker person; Grout gun person; Grout mixer person; Grout pump person; Jackleg miner; Jumbo person; Kemper and other pneumatic concrete placer operator; Miner, tunnel (hand or machine); Nozzle person; Operating of troweling and/or grouting machines; Powder person (primer house); Primer person; Sandblaster; Shotcrete person; Steel form raiser and setter; Timber person, retimber person, wood or steel; Tunnel Concrete finisher

GROUP 4: Diamond driller; Sandblaster; Shaft and raise work

LAB01184-004 07/01/2017

	Rates	Fringes
Brick Tender.....	\$ 31.36	17.82

LAB01414-001 08/02/2017

	Rates	Fringes
LABORER		
PLASTER CLEAN-UP LABORER....	\$ 32.50	18.29
PLASTER TENDER.....	\$ 35.05	18.29

Work on a swing stage scaffold: \$1.00 per hour additional.

PAIN0036-001 01/01/2018

	Rates	Fringes
Painters: (Including Lead Abatement)		
(1) Repaint (excludes San Diego County).....	\$ 27.59	14.14
(2) All Other Work.....	\$ 31.12	14.14

REPAINT of any previously painted structure. Exceptions: work involving the aerospace industry, breweries, commercial recreational facilities, hotels which operate commercial establishments as part of hotel service, and sports facilities.

PAIN0036-008 10/01/2017

	Rates	Fringes
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DRYWALL FINISHER/TAPER.....	\$ 38.58	18.57

PAIN0036-015 06/01/2017		
	Rates	Fringes
GLAZIER.....	\$ 40.95	24.40
FOOTNOTE: Additional \$1.25 per hour for work in a condor, from the third (3rd) floor and up Additional \$1.25 per hour for work on the outside of the building from a swing stage or any suspended contrivance, from the ground up		

PAIN1247-002 01/01/2018		
	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 32.35	14.56

PLAS0200-009 08/02/2017		
	Rates	Fringes
PLASTERER.....	\$ 41.26	14.46

PLAS0500-002 07/01/2016		
	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 33.30	23.33

PLUM0016-001 07/01/2017		
	Rates	Fringes
PLUMBER/PIPEFITTER		
Plumber and Pipefitter		
All other work except		
work on new additions and		
remodeling of bars,		
restaurant, stores and		
commercial buildings not		
to exceed 5,000 sq. ft.		
of floor space and work		
on strip malls, light		
commercial, tenant		
improvement and remodel		
work.....	\$ 49.28	21.61
Work ONLY on new additions		
and remodeling of bars,		
restaurant, stores and		
commercial buildings not		
to exceed 5,000 sq. ft. of		
floor space.....	\$ 47.76	20.63
Work ONLY on strip malls,		
light commercial, tenant		
improvement and remodel		
work.....	\$ 36.91	18.96

PLUM0078-001 07/01/2016		
	Rates	Fringes

PLUMBER

Landscape/Irrigation Fitter..\$ 44.16	25.19
Sewer & Storm Drain Work....\$ 44.16	25.19

 ROOF0036-002 08/01/2017

	Rates	Fringes
ROOFER.....	\$ 37.07	16.17

FOOTNOTE: Pitch premium: Work on which employees are exposed to pitch fumes or required to handle pitch, pitch base or pitch impregnated products, or any material containing coal tar pitch, the entire roofing crew shall receive \$1.75 per hour "pitch premium" pay.

 SFCA0669-002 04/01/2017

	Rates	Fringes
SPRINKLER FITTER.....	\$ 38.28	15.84

 SHEE0105-003 01/01/2018

LOS ANGELES (South of a straight line drawn between Gorman and Big Pines)and Catalina Island, INYO, KERN (Northeast part, East of Hwy 395), MONO ORANGE, RIVERSIDE, AND SAN BERNARDINO COUNTIES

	Rates	Fringes
SHEET METAL WORKER		
(1) Commercial - New Construction and Remodel work.....	\$ 42.78	27.96
(2) Industrial work including air pollution control systems, noise abatement, hand rails, guard rails, excluding aritechtrual sheet metal work, excluding A-C, heating, ventilating systems for human comfort...	\$ 42.78	27.96

 TEAM0011-002 07/01/2017

	Rates	Fringes
TRUCK DRIVER		
GROUP 1.....	\$ 29.59	27.74
GROUP 2.....	\$ 29.74	27.74
GROUP 3.....	\$ 29.87	27.74
GROUP 4.....	\$ 30.06	27.74
GROUP 5.....	\$ 30.09	27.74
GROUP 6.....	\$ 30.12	27.74
GROUP 7.....	\$ 30.37	27.74
GROUP 8.....	\$ 30.62	27.74
GROUP 9.....	\$ 30.82	27.74
GROUP 10.....	\$ 31.12	27.74
GROUP 11.....	\$ 31.62	27.74
GROUP 12.....	\$ 32.05	27.74

WORK ON ALL MILITARY BASES:
 PREMIUM PAY: \$3.00 per hour additional.

[29 palms Marine Base, Camp Roberts, China Lake, Edwards AFB, El Centro Naval Facility, Fort Irwin, Marine Corps Logistics Base at Nebo & Yermo, Mountain Warfare Training Center, Bridgeport, Point Arguello, Point Conception, Vandenberg AFB]

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1: Truck driver

GROUP 2: Driver of vehicle or combination of vehicles - 2 axles; Traffic control pilot car excluding moving heavy equipment permit load; Truck mounted broom

GROUP 3: Driver of vehicle or combination of vehicles - 3 axles; Boot person; Cement mason distribution truck; Fuel truck driver; Water truck - 2 axle; Dump truck, less than 16 yds. water level; Erosion control driver

GROUP 4: Driver of transit mix truck, under 3 yds.; Dumpcrete truck, less than 6-1/2 yds. water level

GROUP 5: Water truck, 3 or more axles; Truck greaser and tire person (\$0.50 additional for tire person); Pipeline and utility working truck driver, including winch truck and plastic fusion, limited to pipeline and utility work; Slurry truck driver

GROUP 6: Transit mix truck, 3 yds. or more; Dumpcrete truck, 6-1/2 yds. water level and over; Vehicle or combination of vehicles - 4 or more axles; Oil spreader truck; Dump truck, 16 yds. to 25 yds. water level

GROUP 7: A Frame, Swedish crane or similar; Forklift driver; Ross carrier driver

GROUP 8: Dump truck, 25 yds. to 49 yds. water level; Truck repair person; Water pull - single engine; Welder

GROUP 9: Truck repair person/welder; Low bed driver, 9 axles or over

GROUP 10: Dump truck - 50 yds. or more water level; Water pull - single engine with attachment

GROUP 11: Water pull - twin engine; Water pull - twin engine with attachments; Winch truck driver - \$1.25 additional when operating winch or similar special attachments

GROUP 12: Boom Truck 17K and above

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide

employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the

wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION