RODRIGUEZ BRIDGE WATERLINE CROSSING
FISH PASSAGE IMPROVEMENTS
ARROYO GRANDE, CALIFORNIA
CONTRACT NO. 300369

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SAN LUIS OBISPO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

NOTICE AND INSTRUCTIONS TO BIDDERS

FOR

RODRIGUEZ BRIDGE WATERLINE CROSSING
FISH PASSAGE IMPROVEMENTS
ARROYO GRANDE, CALIFORNIA
CONTRACT NO. 300369

SAN LUIS OBISPO COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT
NOTICE TO BIDDERS

Sealed proposals will be received at the office of the County Clerk, 1055 Monterey Street, Room D-120, San Luis Obispo, California 93408 until 3:00 P.M. on Thursday, July 19, 2012, which bids will then be opened and declared at 3:15 o'clock P.M. on the above mentioned date at a public meeting at 1055 Monterey Street, Room D-120, by the County Clerk, for the following Flood Control Project:

RODRIGUEZ BRIDGE WATERLINE CROSSING
FISH PASSAGE IMPROVEMENTS
ARROYO GRANDE, CALIFORNIA
CONTRACT NO. 300369

Any bid received at the Office of the Clerk of the Board of Supervisors of the County of San Luis Obispo after 3:00 P.M. on the date specified above shall not be considered, and shall be returned to the bidder unopened.

Bids are required for the entire work described herein.

A bound copy of a reduced size set of the Project Plans, the Agreement, the General and Special Provisions, and blank forms suitable for use in bidding on said work may be obtained from the Department of Public Works, Room 207, County Government Center, San Luis Obispo, CA 93408 and may be purchased therefrom for $ 24.00 (tax included), per bound copy, said purchase cost not to be refunded. No bid will be considered which is not on the forms herein provided. **A full size set of the Project Plans and cross sections, if available, are charged separately at the department's current rates and will be provided only upon request.**

Pursuant to the provisions of Section 1773 of the California Labor Code, the Board of Supervisors of the County of San Luis Obispo has obtained from the Director of the California Department of Industrial Relations the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work for the locality in which the work is to be performed for each needed craft, classification, or type of workman. Copies of said prevailing rate of per diem wages are on file in the Office of the Clerk of the Board of Supervisors of the San Luis Obispo County Flood Control and Water Conservation District (District) and available at the California Department of Industrial Relations' web site address at: www.dir.ca.gov/DLSR/PWD.

Bidders are advised that any contractor who is awarded a flood control project and intends to use a craft or classification not shown on the general prevailing wage determination may be required to pay the wage rate of that craft or classification most closely related to it as shown in the general determinations effective at the time of the call for bids.

Travel and Subsistence Payments shall be in accordance with Section 1773.1 of the Labor Code. Wage rates for holiday and overtime work shall be in accordance with Section 1773 of the Labor Code. Attention is directed to the provisions in Sections 1777.5, 1777.6, and 1777.7 of the Labor Code concerning the employment of apprentices by the Contractor or any subcontractor. Attention is directed to the provisions in Section 1776 of the Labor Code concerning payroll records.

Attention is directed to the provisions in Sections 1810 – 1815 of the Labor Code concerning work hours.

The bidder's attention is directed to the provisions of Section 2-1.02, “Required Listing of Proposed Subcontractors,” of the Special Provisions regarding the requirement that proposed subcontractors be listed in the bidder's proposal. A “DESIGNATION OF SUBCONTRACTORS” form for listing subcontractors, as required, is included in the section titled “Bid Proposal and Forms” of the Contract Documents. <u>This form must be completed and submitted with bidder's bid proposal.</u>

All bonds and endorsements thereto to be submitted pursuant to this contract shall be written by a company authorized to do surety business in the State of California with a minimum of a “B” rating and of adequate financial category as rated by the current edition of Best's Key Rating Guide as published by A.M. Best Company, Inc., Oldwick, New Jersey 08858.

Each bid must be accompanied by a form of bidder's security, namely cash, certified check, cashier's check, or bidder's bond, in the amount of ten percent (10%) of the total of the bid.

All addenda issued before the time in which to submit bids expires shall form a part of the Contract Documents and shall be covered in the bid. Bidders shall acknowledge and confirm receipt of each and every addendum <u>in their bid proposal</u>.

Within five (5) calendar days, not including Saturdays, Sundays and legal holidays, after receipt of notice that the contract has been awarded, the successful bidder, shall execute a written contract with the District in the form prescribed herein.

At the time of execution of the contract, the successful bidder shall submit the certificates of insurance stipulated in Article 7 of the Agreement, and, in addition thereto, shall furnish a “Performance Bond” in the sum of one hundred percent (100%) of the contract bid to guarantee the performance of the contract, and a “Payment Bond” in the sum of one hundred percent (100%) of the contract bid. The bond forms are included in the section titled “Agreement” of the Contract Documents.

In accordance with San Luis Obispo County Code, Title 8, Health and Sanitation, Chapter 8.12, “Solid Waste Management”, a project “Recycling Plan” and “Disposal Report” are required for this contract. The bidder’s attention is directed to Sections 4-1.03, “Contract Submittals”, and 5-1.18, “Solid Waste Management” of the Special Provisions.

Attention is directed to the provisions of Section 5-1.07, “Measurement and Payment,” of the Special Provisions permitting the substitution of equivalent securities for any moneys withheld to ensure performance of this contract. Said Section 5-1.07 is incorporated by reference in this invitation for bid as if fully set forth at length.

The Board of Supervisors reserves the right to reject any or all bids, and to waive discrepancies, irregularities, informalities or any other errors in the bids or bidding, if to do so seems to best serve the public interest. The right of Board of Supervisors to waive errors applies even if the Contract Documents state that a discrepancy, irregularity, informality or other error makes a bid nonresponsive, so long as the error does not constitute a material error.

The successful bidder must be licensed to perform the work in accordance with the laws of the State of California. Accordingly, the successful bidder shall possess a Class A general engineering contractor's license at the time this contract is awarded. In the alternative, the successful bidder shall possess a specialty contractor's license that permits the successful bidder to perform with his or her own organization contract work amounting to not less than 30% of the original total contract price and to subcontract the remaining work in accordance with Section 5-1.055, “Subcontracting,” of the Amendments to the Standard Specifications. Failure of the bidder to be properly and adequately licensed shall constitute a failure to execute the contract and shall result in the forfeiture of the bidder's security.

BID PROTESTS

Any bid protest must be submitted in writing to the Department of Public Works, Room 207, County Government Center, 976 Osos Street, San Luis Obispo, CA 93408; Attention: Design Engineer before 5 p.m. of the 7th business day following bid opening.

The initial protest document shall contain a complete statement of the basis for the protest and all evidence and documents supporting the protest available to the protesting party. The protest shall refer to the specific portion of the document which forms the basis for the protest. The protest shall include the name, address and telephone number of the person representing the protesting party. The party filing the protest shall concurrently transmit a copy of the initial protest document and any attached documentation to all other parties with a direct financial interest which may be adversely affected by the outcome of the protest. Such parties shall include all other bidders who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest. The Board of Supervisors of the San Luis Obispo County Flood Control and Water Conservation District will issue a decision on the protest.

The procedure and time limits set forth in this section are mandatory and are the bidder’s sole and exclusive remedy in the event of bid protest and failure to comply with these procedures shall constitute a waiver of any right to further pursue the bid protest, including filing a Government Code Claim or legal proceedings.

SPECIAL INSTRUCTIONS TO BIDDERS: All bidder Requests for Information must be submitted no later than 3 days prior to the bid opening date. Requests submitted after said date may not be considered. Bidders should submit Requests for Information to the County during the bid period at the following website:

http://www.slocounty.ca.gov/PW/Design_Division/Projects_Out_To_Bid.htm

Attention is directed to Section 4-1.03, "Contract Submittals" of these Special Provisions regarding the time period to submit the listed items upon receipt of the fully executed contract.

Bidders must satisfy themselves by personal examination of the location of the proposed work and by such other means as they prefer as to the actual conditions and requirements of the work, and shall not at any time after submission of the bid dispute, complain, or assert that there was any misunderstanding in regard to the nature or amount of work to be done.

By order of the Board of Supervisors of the San Luis Obispo County Flood Control and Water Conservation District made this _____day of _____, 20__.

County Clerk and Ex-officio Clerk
of the Board of Supervisors

By _____
Deputy Clerk

SAN LUIS OBISPO COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

BID PROPOSAL AND FORMS

FOR

RODRIGUEZ BRIDGE WATERLINE CROSSING
FISH PASSAGE IMPROVEMENTS
ARROYO GRANDE, CALIFORNIA
CONTRACT NO. 300369

BID PROPOSAL

TO: THE BOARD OF SUPERVISORS OF THE SAN LUIS OBISPO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, STATE OF CALIFORNIA:

Pursuant to and in compliance with your Notice to Bidders, the undersigned, as bidder, declares that the only person or parties interested in this proposal as principals are those named herein; that this proposal is made without collusion with any other person, firm or corporation; that he/she is 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 he/she will comply with such provisions before commencing the performance of the work of this contract; that he/she has carefully examined the location of the proposed work, the annexed proposed form of contract, and he/she proposes, and agrees if this proposal is accepted, that he/she will contract with the Board of Supervisors of the San Luis Obispo County Flood Control and Water Conservation District in the form of the copy of the contract annexed hereto, to provide all necessary machinery, tools, apparatus and other equipment needed, and to do all of the work and furnish all the materials specified in the contract, in the manner and the time therein prescribed, and according to the requirements of the Department of Public Works and Transportation as therein set forth, and that he/she will take in full payment therefor the following unit prices, to-wit:

SEE NEXT PAGE FOR BID PROPOSAL FORM

RODRIGUEZ BRIDGE WATERLINE CROSSING
FISH PASSAGE IMPROVEMENTS
ARROYO GRANDE, CALIFORNIA
CONTRACT NO. 300369
BID PROPOSAL

ITEM NO.	DESCRIPTION OF ITEM	APPROX. QUANTITY	UNIT OF MEASURE	UNIT PRICE (IN FIGURES) DOLLARS.CENTS	TOTAL AMOUNT DOLLARS.CENTS
1	TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS	1	LS		
2	TEMPORARY FENCE – TYPE ESA	450	LF		
3	SILT FENCE	300	LF		
4	FIBER ROLL	250	LF		
5	EROSION CONTROL BLANKET	250	SY		
6	CLEARING & GRUBBING	1	LS		
7	DIVERSION / DEWATERING	1	LS		
8	EXCAVATION (F)	125	CY		
9	ROCK EXCAVATION	100	CY		
10	EXCAVATION OF UNSUITABLES	100	CY		
11	WEIR BOULDERS (F)	506	CY		
12	ENGINEERED STREAMBED MATERIAL (F)	1379	CY		
13	LOG STRUCTURES	1	LS		
14	EROSION CONTROL SEEDING	1	LS		
				TOTAL BID	

(F) Is the designation for “Final Pay Quantities” as defined in Section 9-1.015 of the Standard Specifications.

Bidder’s Name: _____

Bidder represents that he/she has hereinabove set forth for each unit basis item of work a unit price and a total for the item, and for each lump sum item a total for the item, all in clearly legible figures in the respective spaces provided for that purpose. In the case of unit basis items, the amount set forth under the "Total" column is the extension of the unit price bid on the basis of the approximate quantity for the item.

In case of discrepancy between the unit price and the total set forth for a unit basis item, the unit price shall prevail, provided, however, if the amount set forth as a unit price is ambiguous, unintelligible, or uncertain for any cause, or is omitted, or is the same amount as the entry in the "Total" column, then the amount set forth in the "Total" column for the item shall prevail and shall be divided by the estimated quantity for the item and the price thus obtained shall be the unit price.

Bidder shall execute and submit with their proposal, each of the following:

- BIDDERS INFORMATION LIST
- DESIGNATION OF SUBCONTRACTORS
- BIDDER'S NON-COLLUSION DECLARATION (STATE FORM)
- BIDDER'S BOND

Bidder declares that he/she has read, and agrees to, the Special Provisions, including, without limitation, the provisions of Sections 1, 2, 3, 4, and 5 thereof.

Bidder shall list the name and address of each subcontractor to whom the bidder proposes to directly subcontract portions of the work as required by the provisions in Section 2-1.02, "Required Listing of Proposed Subcontractors," of these Special Provisions. The list of subcontractors shall also set forth the portion of work that will be done by each subcontractor listed. The "DESIGNATION OF SUBCONTRACTORS" form for listing the subcontractors is included in the section titled "Bid Proposal and Forms" of the Contract Documents.

Accompanying this bid proposal is a bidder's bond, cash, cashier's check, or a certified check, payable to the San Luis Obispo County Flood Control and Water Conservation District, for the sum of _____ Dollars ($_____) , said amount being at least ten percent (10%) of the total of the bid. The proceeds thereof shall become the property of the San Luis Obispo County Flood Control and Water Conservation District if the proposal is withdrawn after the time fixed in the Notice to Bidders for the opening of bids, or if, in case this bid is accepted by said Board of Supervisors and such bidder has received notice that the contract has been awarded to him/her, the undersigned shall fail within five (5) calendar days, not including Saturdays, Sundays, and legal holidays, thereafter to execute a contract with the District and furnish the certificates of insurance and Payment and Performance bonds required by the Contract Documents. Otherwise, said guarantee, except a bidder's bond, will be returned to the undersigned.

This bid proposal may be withdrawn, in writing, prior to the time fixed in the Notice to Bidders for the opening of bids. It is understood and agreed that this bid proposal will <u>not</u> be withdrawn after the time fixed in the Notice to Bidders for the opening of bids. Bidders

further agree that the failure of the District to open bids for this project exactly at the time fixed in said Notice shall not extend the time within which bids may be withdrawn.

The undersigned bidder will sign and deliver to the San Luis Obispo County Flood Control and Water Conservation District the written contract, together with the certificates of insurance and bonds described in the Notice to Bidders, within five (5) calendar days, not including Saturday, Sundays, and legal holidays, after the undersigned has received notice that the contract has been awarded to him/her.

The undersigned, as bidder, declares that he/she is aware of the provisions of Section 3700 of the California 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 will comply with such provisions before commencing the performance of the work of this contract.

The bidder's execution of the signature portion of this bid proposal shall also constitute an endorsement and execution of those certifications, questionnaires, and assurances which are a part of this proposal.

ADDENDA: The undersigned acknowledges and confirms the receipt of **Addenda Nos.**

Addenda Number	Date
_____	_____
_____	_____
_____	_____
_____	_____

and agrees that said addenda are covered in the bid proposal and shall form a part of the Contract Documents.

IMPORTANT NOTICE:

If bidder or other interested person is a corporation, state legal name of corporation, also names of the president, secretary, treasurer, and manager thereof; if a partnership, state true name of firm, also names of all individual co-partners composing firm; if bidder or other interested person is an individual, state first and last names in full.

_____

_____

Bidder warrants and represents that he/she is licensed in accordance with an Act providing for the registration of Contractors, License No. _____, Class _____, License Expiration Date _____. (Note: The successful bidder must possess the license classification specified in the Notice to Bidders upon award of this contract.)

Name of Bidder_____

Signature of Bidder_____

Printed Name and Title_____

Business Address_____

Telephone Number_____

Date_____

NOTICE. . . . . .If bidder is a corporation, the legal name of the corporation shall be set forth above together with the signature of the officer or officers authorized to sign contract in behalf of the corporation; if bidder is a partnership, the true name of the firm shall be set forth above together with the signature of the partner or partners authorized to sign contracts in behalf of the partnership; and if the bidder is an individual, his or her signature shall be placed above. If signature is by an agent, other than an officer of a corporation or a member of a partnership, a Power of Attorney must be on file with the District prior to opening of bids or submitted with the bid; otherwise, the bid will be disregarded as irregular and unauthorized.

RETURN THIS FORM WITH YOUR BID PROPOSAL

BIDDERS INFORMATION LIST

All bidders/proposers are required to provide the following information for all DBE and non-DBE contractors, who provided a proposal, bid, quote, or were contacted by the proposed prime contractor. This information is required from the proposed prime contractor and shall be submitted with their bid proposal. The Department of Public Works will use this information to maintain and update a "Bidder's List" to assist in the overall annual Disadvantaged Business Enterprise (DBE) availability goal setting process required for Federal-aid projects. This information is also being made available to other local agencies for the same purpose. *To the extent permitted by law, all information submitted will be held in strict confidence and will not be shared without your consent except as noted above.*

Contractor: ☐ Prime Contractor ☐ Subcontractor ☐ Supplier ☐ Other: _____

Firm Name: _____ Phone: _____

Business Address: _____ Fax: _____

_____

License No.
and Classification _____ Years in Business: _____

Contact Person: _____

Is the firm currently certified as a DBE by Caltrans? ☐ No ☐ Yes Cert. Number: _____

Gross Annual Receipts for last year:
☐ less than $1 million ☐ less than $5 million ☐ less than $10 million
☐ less than $15 million ☐ more than $15 million

Type of work/ services/ materials provided for this job:
☐ Contractor ☐ Supplier ☐ Manufacturer ☐Trucking ☐ Broker
☐ Other (describe): _____

Contractor Specialty for this job:
☐ Roadway Construction (including signing, paving, and concrete) (237310)
☐ Roadway Painting/Striping (237310)
☐ Highway Lighting & Signal Installation (238210)
☐ Bridge Construction (237310)
☐ Tunnel Construction (237990)
☐ Water, Sewer, & Pipeline Construction (237110)
☐ Power & Communication Transmission Line (including conduit construction) (237130)
☐ Landscaping (561730)
☐ Irrigation (237110)
☐ Other Heavy Construction (including parks, reclamation, reservoir, water & sewer treatment facilities) (237990)
☐ Masonry (including retaining walls and foundations) (238140)
☐ Concrete Retaining Walls (238110)
☐ Building Construction (236210/236220)
☐ Other (describe): _____

- Copy sheet as needed
- None of the information requested on this form is material to the County's determination of which Bidder's Bid is the lowest responsive bid.

RETURN THIS FORM WITH YOUR BID PROPOSAL

DESIGNATION OF SUBCONTRACTORS

In compliance with the provisions of Sections 4100-4113 of the Public Contract Code of the State of California, and any amendments thereto, the undersigned bidder sets forth the following:

a. The name and location of the place of business of each subcontractor who will perform work or labor, or render service to the undersigned Prime Contractor in or about the construction of the work or improvement, or a subcontractor licensed by the State of California who, under subcontract to the Prime Contractor, specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of one-half of one percent of the undersigned Prime Contractor's total bid or in the case of bids for the construction of streets and highways, including bridges, in excess of one-half of one percent or ten thousand dollars ($10,000), whichever is greater.*

b. The portion of the work which will be done by each such subcontractor. Only one subcontractor shall be listed for each such portion.

Bid Schedule Item No.	Description of Portion of Work (if applicable)	Subcontractor	License No.	Address	Approximate Dollar Value

By:_____

(Bidder's Signature/Printed Name and Title/Company Name)

*NOTE: When there is a failure to list a subcontractor, as required, the law provides that the Contractor agrees to do the work with his or her own forces. In such case, bidder must be authorized to perform said work. Any bid not complying with the provisions hereof may be rejected.

RETURN THIS FORM WITH YOUR BID PROPOSAL

BIDDER'S NON-COLLUSION DECLARATION (STATE FORM)

Bidder hereby states, under penalty of perjury, 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 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.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

_____
(Name of Company)

By: _____

_____
Printed Name

_____
Title

Date: _____

RETURN THIS FORM WITH YOUR BID PROPOSAL

BIDDER'S BOND

KNOW ALL BY THESE PRESENTS:

That we, _____

_____

as Principal, and _____

_____,

as Surety, are held and firmly bound unto the San Luis Obispo County Flood Control and Water Conservation District, State of California (hereinafter called "District") in the penal sum of Ten Percent (10%) of the total aggregate amount of the bid of the Principal above named, submitted by said Principal to the District for the work described below, for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents. In no case shall the liability of the Surety hereunder exceed the sum of _____

_____ ($_____).

THE CONDITION OF THIS OBLIGATION IS SUCH,

That whereas a bid to District for certain construction specifically described as follows, for which bids are to be opened on _____, 20____, has been submitted by Principal to District for:

RODRIGUEZ BRIDGE WATERLINE CROSSING
FISH PASSAGE IMPROVEMENTS
ARROYO GRANDE, CALIFORNIA
CONTRACT NO. 300369

Bidder's Bond

NOW, THEREFORE, if the aforesaid Principal shall not withdraw said bid after the time fixed in the Notice to Bidders for the opening of the same, and shall within 10 calendar days, not including Saturdays, Sundays, or legal holidays, after receipt of written notice that the contract has been awarded to him/her, enter into a written contract with District, in the prescribed form, in accordance with the bid as accepted, and file with the District the certificates of insurance as stipulated in Article 7 of the Agreement and the two bonds, one to guarantee faithful performance and the other to guarantee payment for labor and materials, as required by law, then this obligation shall be null and void; otherwise, it shall remain in full force and effect, and the penal sum guaranteed by this bond shall be forfeited to the District.

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of said contract or to the work to be performed thereunder or the specifications accompanying the same shall in any manner affect its obligations on this bond, and it does hereby waive notice of any such change, extension, alteration, or addition.

In the event suit is brought upon said bond by District and judgment is recovered, the Surety shall pay all costs incurred by District in such suit, including a reasonable attorney's fee to be fixed by the court. Death of the Principal shall not relieve Surety of its obligations hereunder.

Bidder's Bond

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this _____ day of_____, 20____.

_____ (Seal)

_____ (Seal)

_____ (Seal)
Principal

_____ (Seal)

_____ (Seal)

_____ (Seal)
Surety

_____

_____
Address

NOTE:

Signatures of those executing for Surety must be properly acknowledged.

Bidder's Bond

SAN LUIS OBISPO COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

CONTRACT AGREEMENT

FOR

RODRIGUEZ BRIDGE WATERLINE CROSSING
FISH PASSAGE IMPROVEMENTS
ARROYO GRANDE, CALIFORNIA
CONTRACT NO. 300369

SAN LUIS OBISPO COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

AGREEMENT

THIS AGREEMENT, made and entered into this _____ day of _____, 20_____, between the San Luis Obispo County Flood Control and Water Conservation District, a political subdivision and county of the State of California, party of the first part, hereinafter called "District" and _____ the party of the second part, hereinafter called "Contractor".

WITNESSETH, that for and in consideration of the mutual covenants and agreements hereinafter contained, the parties hereto agree as follows:

ARTICLE 1. That the Contractor will, at its own proper cost and expense, do all the work and furnish all the equipment and materials necessary to construct and complete in good and workmanlike manner to the satisfaction of the Board of Supervisors of said District, for

RODRIGUEZ BRIDGE WATERLINE CROSSING
FISH PASSAGE IMPROVEMENTS
ARROYO GRANDE, CALIFORNIA
CONTRACT NO. 300369

all in strict accordance with the Contract Documents, including without limitation, the Project Plans, the Standard Specifications of the State of California, Department of Transportation, dated May 2006 (hereinafter called, "Standard Specifications"), the Standard Plans of the State of California, Department of Transportation, dated May 2006 (hereinafter called, "Standard Plans"), and the Special Provisions therefor, on file in the Department of Public Works and Transportation and the Office of the Clerk of the Board of Supervisors of the San Luis Obispo County Flood Control and Water Conservation District, State of California.

ARTICLE 2. This Agreement, together with the Notice and Instructions to Bidders, Bid Proposal and Forms, Standard Specifications, Standard Plans, the Special Provisions, including without limitation the Project Plans incorporated therein, and all addenda thereto, form the contract, and said documents by this reference become as fully a part of this Agreement as if set forth in full and are herein sometimes referred to as "Contract" or as "Contract Documents". The terms set forth below, when utilized in said documents, shall mean as follows:

> PUBLIC WORKS DIRECTOR: Means the Director of Public Works and Transportation (hereinafter, also the Department of Public Works) of the County of San Luis Obispo, State of California, acting either directly or through properly authorized agent(s), acting within the scope of the particular duties delegated to them, including registered engineers employed by the Department of Public Works and Transportation.

COUNTY CLERK: Means the Clerk of the Board of Supervisors of the San Luis Obispo County Flood Control and Water Conservation District, State of California.

ARTICLE 3. The Contractor shall begin work within five (5) calendar days not including Saturdays, Sundays, or legal holidays, from the date of receipt of the District's Notice to Contractor to Proceed, and the work to be accomplished under this contract shall be completed within the time limit provided in Section 4, "Prosecution and Progress of the Work", of the Special Provisions. Attention is directed to the provisions of said Section 4, "Prosecution and Progress of the Work", of the Special Provisions for the amount of liquidated damages.

ARTICLE 4. The total Contract price is the amount of the Contractor's bid as set forth in the award of the Contract approved by the District's Board of Supervisors. The Contractor will receive and accept and the District will pay the prices specified in the attached Bid Proposal, which is incorporated herein by reference, as full compensation for furnishing all labor, materials, and equipment for doing all the work contemplated and embraced in this Agreement. To the extent permitted by law, the Contractor assumes during the progress of the work and before its acceptance, any and all loss or damage arising out of the nature of the work aforesaid or from the action of the elements, or from any unforeseen difficulties or obstructions which may arise or be encountered in the prosecution of the work until its acceptance by the District; and assumes any and all expenses incurred by or in consequence of the suspension or discontinuance of work, for well and faithfully completing the work, and the whole thereof, in the manner and to the requirements of the Plans, Special Provisions, Standard Specifications, Standard Plans, and the Public Works Director.

ARTICLE 5. The Contractor's attention is directed to the provisions of Section 2-1.02, "Required Listing of Proposed Subcontractors," of the Special Provisions and the requirements contained therein.

Additionally, the Contractor's attention is directed to the provisions of the "Subletting and Subcontracting Fair Practices Act" set forth in Sections 4100-4114 of the Public Contract Code.

ARTICLE 6. The Contractor agrees that the Public Works Director shall decide as to the meaning of the Standard Specifications, Standard Plans, and Special Provisions for the work, including without limitation the Project Plans incorporated therein, where the same may be found to be obscure or in dispute and the decision shall be final. The Public Works Director shall have the right to correct any errors or omissions therein when such corrections are necessary to the proper fulfillment of the intention of the Special Provisions, Standard Specifications and Standard Plans; the action of such corrections is to take effect from the time said Public Works Director gives notice thereof to the Contractor.

ARTICLE 7.

INSURANCE REQUIREMENTS

Contractor, at its sole cost, shall purchase and maintain the insurance policies set forth below on all of its operations under this Agreement. All of the insurance companies providing insurance for Contractor shall have, and provide evidence of, an A.M. Best & Co. rating of A:VII or above, unless exception is granted by Risk Manager. Further, all policies shall be maintained for the full term of this Agreement and related warranty period if applicable.

(a) SCOPE AND LIMITS OF REQUIRED INSURANCE POLICIES

1. COMMERCIAL GENERAL LIABILITY

Policy shall include coverage at least as broad as set forth in Insurance Services Office Commercial General Liability Coverage (CG 00 01) with policy limits of not less than $2 million dollars combined single limit per occurrence. Policy shall be endorsed with the following specific language or contain equivalent language in the policy:

i.) The County of San Luis Obispo, its officers, officials, employees, and volunteers are named as an additional insured for all liability arising out of the operations by or on behalf of the named insured in the performance of this Agreement. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance as least as broad as ISO Form CG 20 10 11 85 or if not available, through the addition of both CG 20 10 and CG 20 37 (if a later edition is used).

ii.) The insurance provided herein shall be considered primary coverage to the County of San Luis Obispo with respect to any insurance or self insured retention maintained by the County. Further, the County's insurance shall be considered excess insurance only and shall not be called upon to contribute to this insurance.

iii.) The policy shall not be cancelled or materially changed without first giving thirty days prior written notice to the County of San Luis Obispo, Department of Public Works.

2. BUSINESS AUTOMOBILE POLICY

Policy shall include coverage at least as broad as set forth in the liability section of Insurance Services Office Business Auto Coverage (CA 00 01) with policy limits of no less than $1 million dollars combined single limit for each occurrence. Said insurance shall include coverage for owned, non-owned, and hired vehicles. Policy shall be endorsed with the following specific language or contain equivalent language in the policy:

i.) The County of San Luis Obispo, its officers, officials, employees, and volunteers are named as an additional insured for all liability arising out of the operations by or on behalf of the named insured in the performance of this Agreement.

ii.) The policy shall not be cancelled or materially changed without first giving thirty days prior written notice to the County of San Luis Obispo, Department of Public Works.

3. WORKERS' COMPENSATION / EMPLOYERS' LIABILITY INSURANCE

i. Workers' Compensation: policy shall provide statutory limits as required by State of California. Policy shall be endorsed with the following specific language or contain equivalent language in the policy:

a. Contractor and its insurer shall waive all rights of subrogation against the County, its officers and employees for workers' compensation losses arising out of this Agreement.

b. The policy shall not be cancelled or materially changed without first giving thirty days prior written notice to the County of San Luis Obispo, Department of Public Works.

ii. Employer's Liability: policy shall provide $1 million dollars per accident for bodily injury or disease.

If the Contractor maintains higher limits than the minimum shown above, the County requires and shall be entitled to coverage for the higher limits maintained by the Contractor.

(b) DEDUCTIBLES AND SELF-INSURANCE RETENTIONS

All deductibles and/or self-insured retentions which apply to the insurance policies required herein will be declared in writing and approved by the County prior to commencement of this Agreement.

(c) DOCUMENTATION

Prior to commencement of work and annually thereafter for the term of this Agreement, Contractor will provide to the County of San Luis Obispo, Department of Public Works, Room 207, County Government Center, CA 93408, Attention Design Engineer, Contract No. 300369, properly executed certificates of insurance clearly evidencing the coverage, limits, and endorsements specified in this Agreement. Further, at the County's request, the Contractor shall provide certified copies of the insurance policies within thirty days of request.

(d) ABSENCE OF INSURANCE COVERAGE

County may direct Contractor to immediately cease all activities with respect to this Agreement if it determines that Contractor fails to carry, in full force and effect, all insurance policies with coverage levels at or above the limits specified in this Agreement. Any delays or expense caused due to stopping of work and change of insurance shall be considered Contractor's delay and expense.

(e) SPECIAL RISKS OR CIRCUMSTANCES

The County reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.

ARTICLE 8. Contractor shall defend, indemnify, and hold harmless the County, its officers, employees, and volunteers from all claims, demands, damages, costs, expenses, judgments, attorney fees, liabilities, or other losses (hereafter, collectively "claims") that may be asserted by any person or entity, and that arise out of or relate in any way to any acts or omissions relating to the performance of any duty, obligation, or work hereunder. The obligation to indemnify shall be effective and shall extend to all such claims, in their entirety, even when such claims arise from the comparative negligence of the County, its officers or employees. However, this indemnity will not extend to any claims arising out of the sole negligence or willful misconduct of the County, its officers or employees.

The preceding paragraph applies to any theory of recovery relating to said act or omission by the Contractor, or its agents, employees, or other independent contractors directly responsible to Contractor, including, but not limited to the following:

1. Violation of statute.

2. Professional malpractice.

3. Willful, intentional or other wrongful acts, or failures to act.

4. Negligence or recklessness.

5. Furnishing of defective or dangerous products.

6. Broad Form Property Damage (Including Completed Operations).

7. Premises Liability.

8. Strict Liability.

9. Inverse condemnation.

10. Violation of civil rights

11. Violation of any federal or state stature, regulation, or ruling resulting in a determination by the Internal Revenue Service, California Franchise Tax Board, or any other California entity responsible for collecting payroll taxes, when the Contractor is not an independent contractor.

Nothing contained in the foregoing indemnity provisions shall be construed to require the Contractor to indemnify the County, against any responsibility or liability in contravention of Civil Code 2782.

It is the intent of the parties to provide the County the fullest indemnification, defense, and "hold harmless" rights allowed under the law. If any word(s) contained herein are deemed by a court to be in contravention of applicable law, said word(s) shall be severed from this contract and the remaining language shall be given full force and effect.

All of the preceding indemnification rights granted the County above shall survive any termination of this agreement.

ARTICLE 9. It is further stipulated and agreed that the Contractor shall keep himself/herself fully informed of all laws, ordinances, and regulations which do or may affect the conduct of the work, the materials used therein or persons engaged or employed thereupon and all such orders of bodies and tribunals having any jurisdiction over the same. If it be found that the Special Provisions or Standard Specifications for the work conflict with any such law, ordinance or regulation the Contractor shall immediately report same to the Public Works Director in writing. The Contractor shall at all times observe and comply with and shall cause all his/her agents, employees, and independent contractors hired by the Contractor to observe and comply with all such existing and future laws, ordinances, regulations, or decrees.

ARTICLE 10. It is mutually agreed between the parties hereto, that no certificate given or payments made under this contract, except the final payment, shall be evidence of the performance of this contract, either wholly or in part, against any claim of the Contractor. Final payment for the work performed under this contract shall not be made until the lapse of thirty-five (35) calendar days after the notice of completion of said work has been filed for record and no payment shall be construed to be an acceptance of any defective work or improper materials. The Contractor further agrees that acceptance by the Contractor of the final payment due under this contract, and the adjustment and payment of his/her bill rendered for any work done in accordance with any amendments of this Contract, shall be and shall operate as a release to the San Luis Obispo County Flood Control and Water Conservation District from any and all claims or liabilities on account of work performed under this Contract except claims or liabilities for which written notice of claim or protest has been filed with the Public Works Director. Besides guarantees required elsewhere, the Contractor shall and does hereby guarantee all workmanship and material for a period of one year from and after both the date of acceptance of the work and the recordation of the notice of completion by the District and shall repair or replace any or all work and material, together with any other portions of the work which may be displaced in so doing, that in the opinion of the District is or becomes defective during the period of said guarantee without expense whatsoever to the District.

ARTICLE 11. The Contractor hereby declares that he/she has read the Contract Documents pertaining to the work to be accomplished hereunder, has carefully examined the plans and detail drawings of the work to be performed and fully understands the intent and meaning of the same.

ARTICLE 12. Attention is directed to the provisions in Sections 1777.5, 1777.6, and 1777.7 of the Labor Code concerning the employment of apprentices by the Contractor or any subcontractor.

The Contractor and any subcontractor shall comply with the requirements of Sections 1777.5, 1777.6, and 1777.7 of the Labor Code in the employment of apprentices.

To insure compliance and complete understanding of the law relating to apprentices, and specifically the required ratio thereunder, each contractor or subcontractor should, where some question exists, contact the Division of Apprenticeship Standards, 455 Golden Gate Avenue, San Francisco, California, or one of its branch offices prior to commencement of work on this contract. Responsibility for compliance with said Labor Code Sections lies with the prime contractor.

ARTICLE 13. Attention is directed to the provisions in Section 1776 of the Labor Code concerning Contractor and subcontractor payroll records.

The Contractor and any subcontractor shall comply with the requirements of Section 1776 of the Labor Code.

ARTICLE 14. During the performance of this contract, Contractor agrees to comply with all of the Equal Employment Opportunity provisions of Executive Order No. 11246 of September 24, 1965, as amended by Executive Order 11375 of October 13, 1967, and as supplemented in Department of Labor regulations (41 CFR Chapter 60), including the following:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoffs or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Department of Public Works setting forth the provisions of this nondiscrimination clause.

2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

3. The Contractor will send to each labor union or representative of workers with which he/she has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the Department of Public Works, advising the said labor union or worker's representative of the Contractor's commitments under this Article 14 and shall post copies of the Notice in conspicuous places available to employees and applicants for employment.

4. The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations (41 CFR, Part 60) and relevant orders of the Secretary of Labor.

5. The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the District and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

6. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations or orders, this contract may be cancelled, terminated or suspended in whole or in part and the Contractor may be declared ineligible for further government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation or order of the Secretary of Labor, or as otherwise provided by law.

7. The Contractor will include the provisions of this Article 14 in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the Public Works Director or the Secretary of Labor may direct as a means of enforcing such provisions including sanctions for noncompliance: provided, however, that in the event a contractor becomes involved in, or is threatened with litigation with a subcontractor or vendor as a result of such direction by the Secretary of Labor, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

ARTICLE 15. Safety: All work conducted by the Contractor and/or subcontractors in the execution of this contract shall be in accordance with current CAL OSHA requirements. Full compensation for compliance with the provisions of this Article 15 shall be considered as included in the other items of work and no additional compensation will be allowed therefor.

IN WITNESS WHEREOF, the parties to these presents have hereunto set their hands the year and date first above written, being authorized thereto.

SAN LUIS OBISPO COUNTY
FLOOD CONTROL AND
WATER CONSERVATION DISTRICT

By: _____
Chairperson of the Board of Supervisors
County of San Luis Obispo

ATTEST:

_____
Clerk of the Board of Supervisors
of the County of San Luis Obispo

By: _____
Deputy Clerk

APPROVAL RECOMMENDED
PAAVO OGREN

By: Paavo Ogren
Director of Public Works

Date 6/5, 2012

APPROVED AS TO FORM AND
LEGAL EFFECT:
WARREN R. JENSEN
County Counsel

By: Patrick Gomez

Date 6/4/2012

CONTRACTOR

_____

By: _____

_____
(Printed Name and Title)

Date Signed:
_____, 20__

By: _____

_____
(Printed Name and Title)

Date Signed:

_____, 20__

PERFORMANCE BOND

KNOW ALL BY THESE PRESENTS: That

WHEREAS, the Board of Supervisors of the San Luis Obispo County Flood Control and Water Conservation District, State of California, has awarded to _____

_____

(hereinafter designated as "Principal") a contract for _____

_____

_____

_____; and

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

NOW, THEREFORE, we, the Principal and _____

_____, as Surety, are held and firmly bound unto the San Luis Obispo County Flood and Water Conservation District, (hereinafter called "District"), in the penal sum of _____ ($_____), lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

The condition of this obligation is such that if the above bounded 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 agreements

in the said contract and any alteration thereof made as therein provided, on his/her or their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless District, its officers, agents, and employees, as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force virtue and effect.

And the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any manner affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration, or additions to the terms of the contract or to the work or to the specifications.

In the event suit is brought upon this bond by District and judgment is recovered, Surety shall pay all costs incurred by District in such suit, including a reasonable attorney's fee to be fixed by the Court.

Death of the Principal shall not relieve Surety of its obligations hereunder.

Performance Bond

IN WITNESS WHEREOF, one identical counterpart of this instrument, which shall for all purposes be deemed an original thereof, has been duly executed by Principal and Surety above named, on the _____ day of_____, 20____.

_____ (Seal)

_____ (Seal)

_____ (Seal)
Principal

_____ (Seal)

_____ (Seal)

_____ (Seal)
Surety

_____

_____
Address

NOTE:

Signatures of those executing for Surety must be properly acknowledged.

Performance Bond

PAYMENT BOND

KNOW ALL BY THESE PRESENTS:

WHEREAS, the Board of Supervisors of the San Luis Obispo County Flood Control and Water Conservation District, State of California, and _____ _____ (hereinafter designated as "Principal") have entered into an agreement for _____

_____

_____

_____

which said Agreement, and all of the Contract Documents attached to or forming a part of said Agreement, are hereby referred to and made a part hereof; and

WHEREAS, pursuant to law, the Principal is required before entering upon the performance of the Work, to file a good and sufficient bond with the body by whom the contract is awarded, to secure claims to which reference is made in Sections 3247 through 3252, inclusive, of the Civil Code of California, and Sections 3181, 3110, 3111 and 3112 of the Civil Code of California,

NOW, THEREFORE, said Principal and the undersigned _____

_____

as corporate surety, are held and firmly bound unto the San Luis Obispo County Flood Control and Water Conservation District, and unto all laborers, materialmen, and other persons referred to in said statutes in the sum of _____ _____ ($___), lawful money of the United States for the payment of which sum

well and truly made, we bind ourselves, our heirs, executors, administrators, successors, or assigns, jointly and severally by these presents.

The condition of this obligation is such that if the said Principal, his/her or its heirs, executors, administrators, successors or assigns, or subcontractors, shall fail to pay any of the persons named in Civil Code Section 3181, or amounts due under the Unemployment Insurance Code with respect to work or labor performed by any such claimant, or any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Principal and his/her subcontractors pursuant to Section 13020 of the Unemployment Insurance Code, with respect to such work and labor, that the surety herein will pay for the same in an amount not exceeding the sum specified in this bond, otherwise the above obligation shall be void. In case suit is brought upon this bond, the said surety will pay a reasonable attorney's fee to be fixed by the court.

This bond shall inure to the benefit of any of the persons named in Civil Code Section 3181 as to give a right of action to such persons or their assigns in any suit brought upon this bond.

Should the condition of this bond be fully performed, then this obligation shall become null and void, otherwise it shall be and remain in full force, virtue, and effect.

Payment Bond

And the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any manner affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration, or additions to the terms of the contract or to the work or to the specifications.

Death of the Principal shall not relieve Surety of its obligations hereunder.

IN WITNESS WHEREOF one identical counterpart of this instrument, which shall for all purposes be deemed an original thereof, has been duly executed by the Principal and Surety above named, on the _____ day of_____, 20____.

_____ (Seal)

_____ (Seal)

_____ (Seal)
Principal

_____ (Seal)

_____ (Seal)

_____ (Seal)
Surety

_____

_____
Address

NOTE:
Signatures of those executing for Surety must be properly acknowledged.

Payment Bond

SAN LUIS OBISPO COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

SPECIAL PROVISIONS

FOR

RODRIGUEZ BRIDGE WATERLINE CROSSING
FISH PASSAGE IMPROVEMENTS
ARROYO GRANDE, CALIFORNIA
CONTRACT NO. 300369

COUNTY CONTRACT NO. 300369

The Special Provisions contained herein have been prepared by or under the direction of the following registered engineer(s):

PREPARED BY:

REGISTERED PROFESSIONAL ENGINEER THOMAS C. TROTT C 71446 EXP. 12/31/13 CIVIL STATE OF CALIFORNIA

PROJECT MANAGER — DATE 6/1/2012

REGISTERED PROFESSIONAL ENGINEER DEAN R. BENEDIX No. 37892 Exp. 3.31.13 CIVIL STATE OF CALIFORNIA

UTILITY DIVISION MANAGER — DATE 6/4/12

REGISTERED PROFESSIONAL ENGINEER JEFF B. WERST C 47971 EXP. 12-31-13 CIVIL STATE OF CALIFORNIA

DESIGN ENGINEER — DATE 6/4/12

RECOMMENDED FOR APPROVAL AND ADVERTISING BY:

DEPUTY PUBLIC WORKS DIRECTOR — DATE 6/5/12

APPROVED BY:

PUBLIC WORKS DIRECTOR — DATE 6/5/12

The Special Provisions contained herein have been prepared by or under the direction of the following registered engineer(s):

PREPARED BY:

Matt Weld — ***5/15/12***

CIVIL ENGINEER — DATE

(For Sections 01560, 02110, 02140, 02201 02222, 02226, 02270, 02272, 02378, 02379, 02932 only)

SECTION 1. SPECIFICATIONS AND PLANS

1-1.01 Specifications and Plans: The work embraced herein shall be done in accordance with the Standard Specifications of the State of California, Department of Transportation, dated May 2006 (hereinafter called, "Standard Specifications"), the Standard Plans of the State of California, Department of Transportation, dated May 2006 (hereinafter called, "Standard Plans"), insofar as they may apply and in accordance with these Contract Documents. Wherever State Agencies, Departments, or Officers are referred to in the above mentioned Standard Specifications and Standard Plans, the comparable County of San Luis Obispo Agency, Department, or Officer having jurisdiction shall be meant thereby for the purpose of these Contract Documents.

The District hereby elects under Public Contract Code § 20396 to have said applicable provisions of the Standard Specifications and Standard Plans referenced above, including those provisions modified by these Special Provisions, governed by the State Contract Act to the extent, and only to the extent, one or both of the following conditions is satisfied: (1) the applicable provisions of the Standard Specifications or Standard Plans expressly refer to the State Contract Act; or (2) the District would lack the authority to implement the applicable provisions of the Standard Specifications or Standard Plans absent the District's election to have the District's election to have the District's implementation of the provisions governed by the State Contract Act.

No amendment by the Department of Transportation to the Standard Specifications shall apply to these Contract Documents unless the amendment is expressly set forth in these Special Provisions.

In case of conflict between the Standard Specifications and the contract Special Provisions herein, the Special Provisions shall take precedence over such conflicting portions.

SECTION 2. PROPOSAL REQUIREMENTS AND CONDITIONS

2-1.01 Proposal Requirements and Conditions: Attention is directed to the provisions in Section 2, "Proposal Requirements and Conditions," of the Standard Specifications and these Special Provisions.

The bidder's bond shall conform to the bond form in the section titled "Bid Proposal and Forms" of the Contract Documents and shall be properly filled out and executed. The bidder's bond form included in the Contract Documents may be used.

The following provisions for Section 2, "Proposal Requirements and Conditions," of the Standard Specifications are hereby modified as set forth hereafter.

Section 2-1.03, "Examination of Plans, Specifications, Contract, and Site of Work," of the Standard Specifications is hereby amended by modifying the first sentence of the 4th paragraph to read: "Inspection of such records may be made at the Department of Public Works, defined in Section 5-1.01."

Section 2-1.05, "Proposal Forms" of the Standard Specifications, is hereby amended by substituting the words, "General and Special Provisions" for the words, "Proposal and Contract" in the first sentence of the 2nd paragraph and by substituting the words, "Notice to Bidders" for the words, "Notice to Contractors" in the first sentence of the 3rd paragraph. The 4th paragraph is hereby amended to read: "Proposal forms shall be obtained from the Department of Public Works and Transportation, County Government Center, San Luis Obispo, CA. 93408." The 5th paragraph is hereby deleted.

Section 2-1.07, "Proposal Guaranty" of the Standard Specifications, is hereby amended by substituting the words, "made payable to the San Luis Obispo County Flood Control and Water Conservation District" for the words, "made payable to the Director of Transportation" in the first paragraph. The 2nd paragraph is hereby amended by adding the following sentence, "The provisions of the Public Contract Code § 10181 are applicable to this contract." The first sentence of the last paragraph is hereby amended by substituting the words, "General and Special Provisions" for the words, "Proposal and Contract". The last sentence of the last paragraph is hereby deleted.

Section 2-1.08, "Withdrawal of Proposals" of the Standard Specifications, is hereby amended by substituting the words, "Office of the Clerk of the Board of Supervisors of the San Luis Obispo County Flood Control and Water Conservation District" for the words, "Office Engineer, Division of Construction" in the first sentence. The last sentence is hereby amended by modifying it to read: "Any bid received at the Office of the Clerk of the Board of Supervisors of the San Luis Obispo County Flood Control and Water Conservation District after the date and time specified in the Notice to Bidders shall not be considered and shall be returned to the bidder unopened nor may any bid be withdrawn after the time fixed in the public notice for the opening of bids."

Section 2-1.105, “Previous Disqualification, Removal or Other Prevention of Bidding”, of the Standard Specifications, is hereby amended by deleting the first paragraph.

Section 2-1.108, “Compliance with Orders of the National Labor Relations Board”, of the Standard Specifications, is hereby amended by modifying the last paragraph to read: “The statement required by said Section 10232 is included in the section titled “Bid Proposal and Forms” of the Contract Documents.”

Section 2-1.11, “Ineligibility to Contract”, of the Standard Specifications is hereby amended by modifying the last paragraph to read: “A form for the statement required by Section 10285.1 is included in the section titled “Bid Proposal and Forms” of the Contract Documents.”

2-1.02 Required Listing of Proposed Subcontractors: The designated subcontractors listed in the bidder's proposal shall list therein the name and address of all subcontractors to whom the bidder proposes to subcontract portions of the work in an amount in excess of 1/2 of one percent of the total bid, or in the case of bids for the construction of streets and highways, including bridges, in excess of 1/2 of the one percent or $10,000, whichever is greater, in accordance with the Subletting and Subcontracting Fair Practices Act commencing with Section 4100 of the Public Contract Code. The bidder’s attention is invited to other provisions of said Act related to the imposition of penalties for a failure to observe its provisions by using unauthorized subcontractors or by making unauthorized substitutions.

The “DESIGNATION OF SUBCONTRACTORS” form for the designation of subcontractors, as required herein, is included in the section titled “Bid Proposal and Forms” of the Contract Documents and shall be completely filled out, signed by the bidder, and submitted with the bid proposal.

SECTION 3. AWARD AND EXECUTION OF CONTRACT

3-1.01 Award of Contract: Attention is directed to the provisions of Section 3, “Award and Execution of Contract,” of the Standard Specifications and these Special Provisions.

The award of contract, if it be awarded, will be to the lowest responsible bidder whose proposal complies with all of the requirements prescribed. Such award, if made, will be made within 45 calendar days after the opening of proposals.

If the lowest responsible bidder refuses or fails to execute the contract, the Board of Supervisors of the San Luis Obispo County Flood Control and Water Conservation District may award the contract to the second lowest responsible bidder. Such award, if made, will be made within 75 calendar days after the opening of proposals. If the second lowest responsible bidder refuses or fails to execute the contract, the Board of Supervisors of the San Luis Obispo County Flood Control and Water Conservation District may award the contract to the third lowest responsible bidder. Such award, if made, will be made within 105 calendar days after the opening of proposals. The periods of time specified above within which the award of contract may be made shall be subject to extension for such further period as may be agreed upon in writing between the San Luis Obispo County Flood Control and Water Conservation District and the bidder concerned.

3-1.02 Contract Bonds: The successful bidder shall furnish two (2) bonds:

1. The Payment bond to secure the claim payments of laborers, workers, mechanics, or materialmen providing goods, labor, or services under the contract. This bond shall be equal to one hundred percent (100%) of the total contract bid.
2. The Performance bond to guarantee the faithful performance of the contract. This bond shall be equal to one hundred percent (100%) of the total contract bid.

Forms for the two (2) required bonds are included in the section titled “Bid Proposal and Forms” of the Contract Documents.

Surety on said bonds must agree that death of the Contractor shall not relieve the surety of its obligation hereunder. The said surety, for the value received, must stipulate and agree that all alterations, extension of time, extra and additional work, and other changes authorized by these Specifications or any part of the contract may be made without securing consent of the surety on the contract bonds, and such actions shall not in any way affect the obligations of the surety on the bonds.

Attention is directed to the provisions in Section 6-1.075, "Guarantee," of the Amendments to the Standard Specifications.

3-1.03 Execution of Contract: The contract shall be signed by the successful bidder and returned, together with the contract bonds, copy of insurance policies, and Certificates of Insurance, with documents to verify any self insurance coverage within five (5) calendar days, not including Saturdays, Sundays, and legal holidays, after the bidder has received the contract for execution.

The contract shall not be deemed executed by the successful bidder unless all of the above documents are received by the District with the signed contract within said time period. The bidder's security may be forfeited for failure to execute the contract within the time specified.

SECTION 4. PROSECUTION AND PROGRESS OF THE WORK

4-1.01 General: Attention is directed to the provisions in Section 8, "Prosecution and Progress," of the Standard Specifications and these Special Provisions.

The Contractor shall begin work within five (5) working days from the date of receipt of the "Notice to Proceed."

This work shall be diligently prosecuted to completion before the expiration of 35 WORKING DAYS from the date of receipt of the "Notice to Proceed." The Contractor shall not begin work in advance of receiving the "Notice to Proceed."

4-1.02 Liquidated Damages: It is agreed by the parties to the contract that in the case all the work called for under the contract in all parts and requirements is not finished or completed within the number of working days as set forth in these Special Provisions, damage will be sustained by the San Luis Obispo County Flood Control and Water Conservation District, and that it is and will be impractical and extremely difficult to ascertain and determine the actual damage which the District will sustain in the event of and by reason of such delay; and it is therefore agreed that the Contractor will pay to the San Luis Obispo County Flood Control and Water Conservation District the sum of ONE THOUSAND FOUR HUNDRED DOLLARS ($1,400.00) per day for each and every calendar days delay in finishing the work in excess of the number of working days prescribed above as liquidated and agreed damages; and the Contractor agrees to pay said liquidated damages herein provided for, and further agrees that the District may deduct the amount thereof from any moneys due or that may become due the Contractor under the contract.

The language in Sections 10253 through 10260 of the Public Contract Code are incorporated herein by reference as though fully set forth herein (with the word "Director" therein construed to mean the Public Works Director); provided, however, that prequalification of bidders shall not be required, and any references in said sections to prequalification of bidders are hereby deleted.

4-1.03 Contract Submittals: The Contractor shall submit the following to the Engineer within five (5) calendar days, not including Saturdays, Sundays, and legal holidays, of the Contractor's receipt of the fully executed contract:

- Water Pollution Control Plan – 3 copies
- Dewatering Plan
- Recycling Plan
- Proposed Progress Schedule
- Identity of Project Safety Officer

The Contractor shall allow ten (10) days, not including Saturdays, Sundays, and legal holidays, for the Engineer's review. The Contractor shall revise and resubmit the submittal within 5 days, not including Saturdays, Sundays, and

legal holidays, of receipt of the Engineer's comments. No claim will be allowed for damages or extensions of time because of delays in work resulting from rejection of the submittals or from revisions and resubmittal of the submittals. The number of working days within which the Contractor must complete the work under this contract shall be reduced by 1 working day for each day the Contractor fails to submit or resubmit the required submittal to the Engineer within the prescribed time allowances.

The Engineer's review and approval shall not waive any contract requirements and shall not relieve the Contractor from complying with Federal, State and local laws, regulations, and requirements. No claim will be allowed for damages or extensions of time because of delays in work resulting from any documents submitted by Contractor to any federal, state, or local agency that are determined by such agency to be incomplete or not in compliance with any applicable laws, regulations or requirements.

4-1.04 Mandatory Pre-Construction Conference: Prior to the issuance of the "Notice to Proceed" a mandatory pre-construction conference will be held at the office of the Construction Engineer for the purpose of discussing with the Contractor the scope of work, contract drawings, specifications, existing conditions, materials to be ordered, equipment to be used, and all essential matters pertaining to the prosecution and the satisfactory completion of the project as required. The Contractor's representatives at this conference shall include major superintendents and shall include major subcontractors' representatives. So long as the District provides the Contractor at least 5 calendar days advance notice of the date and time of said conference. The number of working days within which the Contractor must complete the work under this contract shall be reduced by 1 working day for each day said conference is delayed by the Contractor's failure to attend the conference with the appropriate representatives.

A written record of attendance and items discussed will be made by the Engineer and a copy of the record kept in the Engineer's files. If for any reason a pre-construction conference is not held the Engineer will notify the Contractor in writing.

SECTION 5. GENERAL AND MISCELLANEOUS

5-1.01 Definitions and Terms: Attention is directed to the provisions in Section 1, "Definitions and Terms," of the Standard Specifications with the modifications as set forth hereafter.

Section 1-1.13, "Department," of the Standard Specifications is hereby amended to read: "The San Luis Obispo County Flood Control and Water Conservation District (District) acting by and through the Department of Public Works and Transportation of the County of San Luis Obispo as the ex officio Public Works Department of the District."

Section 1-1.15, "Director," of the Standard Specifications is hereby amended to read: "The Director of the Department of Public Works and Transportation of the County of San Luis Obispo as the ex officio Public Works Director of the District."

Section 1-1.18, "Engineer," of the Standard Specifications is hereby amended to read: "Any duly authorized representative either employed by or contracting with the San Luis Obispo County Flood Control and Water Conservation District acting within the scope of the particular duties delegated to them."

Section 1-1.19, "Engineer's Estimate," of the Standard Specifications is hereby amended to read: "The contract bid form indicating the approximate quantities of work to be performed as contained in the Bid Proposal."

Section 1-1.26, "Liquidated Damages," of the Standard Specifications is hereby amended to read: "The amount prescribed in Section 4, "Prosecution and Progress of the Work," of the Special Provisions pursuant to Government Code Section 53069.85 to be paid to the District, or to be deducted from any payments due, or to become due, the Contractor for each day's delay in completing the whole or any specified portion of work beyond the time allowed in the Contract Documents."

Section 1-1.39, "State," of the Standard Specifications is hereby amended to read: "The State of California and its political subdivision, the San Luis Obispo County Flood Control and Water Conservation District."

Section 1-1.40, "State Contract Act," of the Standard Specifications is hereby amended to read: "Only those sections or provisions of Chapter 1 of Part 2 of Division 2 of the Public Contract Code (Section 10100 et seq.) which are specifically incorporated into this contract are applicable to this contract. All other sections and provisions of Chapter 1 of Part 2 of Division 2 of the Public Contract Code are not applicable to this contract and do not constitute a part hereof."

5-1.02 Scope of Work: Attention is directed to the provisions in Section 4, “Scope of Work,” of the Standard Specifications with the modifications as set forth hereafter.

Section 4-1.03B(1), “Increases of More Than 25 Percent,” of the Standard Specifications is amended by adding the following sentence to the last paragraph: “Additionally, such written request by the Contractor shall be accompanied by adequate, detailed data to support actual costs incurred.”

Section 4-1.03B(2), “Decreases of More Than 25 Percent, “ of the Standard Specifications is hereby amended by modifying the first sentence of the first paragraph to read: “Should the total pay quantity of any item of work required under the contract be less than 75 percent of the Engineer’s Estimate therefor, the Engineer may reserve the right to make no adjustment in the corresponding unit price for that item if he/she so elects, except that an adjustment in compensation pursuant to this Section will be made if requested in writing by the Contractor. Additionally, such written request by the Contractor shall be accompanied by adequate, detailed data to support actual costs incurred.”

Section 4-1.03D, “Extra Work,” of the Standard Specifications is hereby amended by adding the following sentences to the 2nd paragraph: “All extra work shall be reported daily by the Contractor upon forms furnished by the Engineer, signed by both parties at the conclusion of each workday. Said daily extra work reports shall thereafter be considered the true record of the extra work performed and shall become the basis of payment therefor.”

5-1.03 Control of Work: Attention is directed to Section 5, “Control of Work,” of the Standard Specifications with the modifications as set forth hereafter.

Section 5-1.07, ”Lines and Grades,” of the Standard Specifications is hereby amended to read: ”Stakes or marks will be set by the Engineer as the Engineer determines to be necessary to establish the lines and grades required for the completion of the work specified in these specifications, on the plans, and in the Special Provisions.

When the Contractor requests stakes or marks to be set, the Contractor shall notify the Engineer of the request in writing no less than three (3) working days in advance of starting operations that require their use. The Contractor shall also submit to the Engineer for acceptance, a tentative schedule of all anticipated staking requests for the initial thirty (30) working days of the contract. The Engineer shall determine if the staking request schedule is reasonable before recognizing any requests for stakes or marks to be set. Said schedule shall correlate with any order of work specified in the Contract Special Provisions. If any vegetation needs to be cleared or grubbed, as determined by the Engineer, before stakes or marks can be set, then the Contractor shall clear the obstructing vegetation for the proper placement of stakes or marks. The Engineer and the Contractor shall agree on the extent of vegetation removal necessary to prepare the work site for the setting of stakes or marks. Vegetation

removal for the preparation of the work site for the setting of stakes or marks shall be considered as included in the various items of work involved and no additional compensation will be allowed therefor. The Contractor will not be entitled to any compensation for any perceived delay, nor entitled to an extension of time for any perceived delay without due cause for the period between when the work site is deemed cleared by the Engineer and when the stakes or marks are set for use by the Contractor.

Stakes and marks set by the Engineer shall be carefully preserved by the Contractor. In case the stakes and marks are destroyed or damaged, the stakes and marks will be replaced or restored at the Engineer's earliest convenience. The Contractor will be charged $875.00 for each stake or mark replaced or restored which in the judgment of the Engineer had been carelessly or willfully destroyed or damaged by the Contractor's operations. This charge will be deducted from any moneys due or to become due the Contractor."

Section 5-1.116, "Differing Site Conditions," of the Amendments to the Standard Specifications is hereby amended by including the following language from Section 7104 of the Public Contract Code: "7104. Any public works contract of a local public entity which involves digging trenches or other excavations that extend deeper than four feet below the surface shall contain a clause which provides the following: (a) That the contractor shall promptly, and before the following conditions are disturbed, notify the public entity, in writing, of any: (1) Material that the contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law. (2) Subsurface or latent physical conditions at the site differing from those indicated. (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) That the public entity 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 under the procedures described in the contract. (c) That, in the event that a dispute arises between the public entity 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, but shall proceed with all work to be performed under the contract. 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."

5-1.04 Prevailing Wage: Attention is directed to the provisions in Section 7-1.01A(2), "Prevailing Wage," of the Standard Specifications and these Special Provisions.

Pursuant to the provisions of Section 1773 of the California Labor Code, the Board of Supervisors of the San Luis Obispo County Flood Control and Water Conservation District has obtained from the Director of the California Department of Industrial Relations the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work for the locality in which the work is to be performed for each needed craft, classification, or type of workman. Copies of said prevailing rate of per diem wages are on file in the Office of the Clerk of the Board of Supervisors and available at the California Department of Industrial Relations' web site at:

www.dir.ca.gov/DLSR/PWD

The wage rates determined by the Director of Industrial Relations refer to expiration dates. Prevailing wage determinations with a single asterisk after the expiration date are in effect on the date of advertisement for bids and are good for the life of the contract. Prevailing wage determinations with double asterisks after the expiration date indicate that the wage rate to be paid for work performed after this date has been determined. If work is to extend past this date, the new rate shall be paid and incorporated in the contract. The Contractor shall contact the Department of Industrial Relations as indicated in the wage rate determinations to obtain predetermined wage changes.

Pursuant to Section 1773.2 of the Labor Code, a copy of said general prevailing rates shall be posted by the Contractor in a prominent place at the site of the work.

Additionally, the Director of Industrial Relations has reserved the right to issue corrected wage determinations for certain crafts contained in the prevailing wage determinations applicable to this contract. These corrected prevailing wage rates shall apply to this contract in the same manner as if they had been published in the prevailing wage determinations applicable to this contract. These revisions to the general prevailing wage rates are on file at the Office of the Clerk of the Board of Supervisors and available at the California Department of Industrial Relations' web site at:

www.dir.ca.gov/DLSR/PWD

Additionally, changes in general prevailing wage determinations which conform to Labor Code Section 1773.6 and Title 8 California Code of Regulations Section 16204 shall apply to the contract when issued by the Director of Industrial Relations at least ten (10) calendar days prior to the date of the Notice to Bidders for the project. Changes, if any, to the general prevailing wage rate will be on file at the Office of the Clerk of the Board of Supervisors and available at the California Department of Industrial Relations' web site at:

www.dir.ca.gov/DLSR/PWD

5-1.05 Progress Schedule: Progress schedules will be required for this contract and shall conform to the provisions in Section 8-1.04, "Progress Schedules," of the Standard Specifications.

The Contractor shall submit to the Engineer a practicable progress schedule in conformance with the provisions in Section 4-1.03, "Contract Submittals," of these Special Provisions, and within 5 working days of the Engineer's written request at any other time.

5-1.06 Preservation of Property: Attention is directed to the provisions in Section 7-1.11, "Preservation of Property," of the Standard Specifications is hereby amended by adding the following to the end of the second paragraph: "Pursuant to Section 8771(b) of the California Business and Professions Code, existing survey monuments that control the location of subdivisions, tracts, boundaries, roads, streets, or highways, or provide survey control that are within or adjacent to the Contractor's operations, shall be located and referenced by or under the direction of a licensed land surveyor or registered civil engineer prior to the time when any streets, highways, other rights-of-way, or easements are improved, constructed, reconstructed, maintained, resurfaced, or relocated. In the event that any existing survey monument is disturbed in any way by the Contractor's operations as determined by a licensed land surveyor or registered civil engineer, they shall be reset accordingly and a corner record shall be filed with the county surveyor prior to the recording of a certificate of completion for the project. Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in locating existing survey monuments by or under the direction of a licensed land surveyor or registered civil engineer, resetting any disturbed survey monument and filing a corner record, shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed therefor."

5-1.07 Measurement and Payment: Attention is directed to the provisions in Section 9, "Measurement and Payment," of the Standard Specifications with the modifications as set forth hereafter.

The 13th paragraph of Section 9-1.01, "Measurement of Quantities," of the Standard Specifications shall be amended to read as follows: "Whenever pay quantities of materials are determined by weighing, the scales shall be operated by a weighmaster licensed in accordance with provisions of the California business and Professions Code, Division 5, Chapter 7. The Contractor shall furnish a Public Weighmaster's certificate, or a private Weighmaster's certificate (load slip) with each load and a Daily Record of Platform Scale Weights. The Weighmaster's certificates shall be numbered consecutively to correspond with the Daily Record of Platform Scale Weights. The Daily Record of Platform Scale Weights shall be prepared using a form supplied by the District and shall be delivered to the Engineer at the end of each day. Contractor shall provide the District sufficient advance notice so as to enable a representative of the District to be present to witness the Weighing and check the Daily Record of Platform Scale Weights."

Section 9-1.04, “Notice of Potential Claim,” of the Standard Specifications is hereby amended by adding the following: “Additionally, the written notice of potential claim shall be submitted on Caltrans form CEM-6201 and shall be certified with reference to the California False Claims Act, Government Code Sections 12650-12655. The notice shall set forth the reasons for which the Contractor believes additional compensation will or may be due and the nature of the costs involved. Unless the amount of the potential claim has been stated in the written notice, the Contractor shall within 15 working days of submitting said notice, furnish an estimate of the cost of the affected work and impacts, if any, on project completion. Said estimate of costs may be changed or updated by the Contractor when conditions have changed.

When the affected work is completed, the Contractor shall submit substantiation of actual costs. Failure to do so shall be sufficient cause for denial of any claim subsequently filed on the basis of said notice of potential claim.

Should the Contractor, in conjunction with or subsequent to the assertion of a potential claim, request inspection and copying of documents or records in the possession of the District that pertain to the potential claim, the Contractor shall make its records of the project, as deemed by the District to be pertinent to the potential claim, available to the District for inspection and copying.”

Section 9-1.05, “Stop Notices,” of the Standard Specifications is hereby amended by adding the following statement: “Stop notice information may be obtained from the Department of Public Works and Transportation.”

Section 9-1.065, “Payment of Withheld Funds,” of the Standard Specifications is hereby amended to read: “Attention is directed to Section 9-1.06, “Partial Payments,“ of the Standard Specifications, to these Special Provisions and in particular to the retention provisions therein.

Upon the Contractor’s request, the District will make payment to the Contractor of funds withheld to ensure performance of this contract if the Contractor, in accordance with Public Contract Code Section 22300, deposits in escrow with the District, or with a state or federally chartered bank in California securities equivalent to the amount withheld. Securities eligible for investment under this section shall include bank or savings and loan certificates of deposit, the securities enumerated in Government Code Section 16430, interest bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by the Contractor and the District. Upon satisfactory completion of the contract, the securities shall be returned to the Contractor. Alternatively, the Contractor may request that the District make payment of retention earned directly to the escrow agent as provided in subdivision (b) of Section 22300 of the Public Contract Code.

Each of the following conditions shall apply to the deposit of securities into escrow:

(a) The Contractor shall bear the expense of the District and the escrow agent (either the District or the bank) in connection with the escrow deposit made.
(b) Securities or certificates of deposit to be placed in escrow shall be of a value at least equivalent to the amounts of retention to be paid to the Contractor pursuant to this section.
(c) The value of any securities placed in escrow shall be based upon the market value of such securities as of the date the securities are deposited in escrow, and not upon the face value of the securities. Such securities shall be valued by the District, whose decision on valuation of the securities shall be final.
(d) The escrow agreement shall provide that the escrow agent must convert the securities deposited therein for cash, in whole or in part, to meet the defaults by the Contractor upon a unilateral demand for such conversion by the Public Works Director, and further that any amount so demanded shall be paid to the District upon said unilateral demand for payment.
(e) The Contractor shall be the beneficial owner of any securities substituted for moneys withheld and shall receive any interest thereon.
(f) The Contractor shall enter into an escrow agreement satisfactory to the District, which agreement shall be substantially similar to the form set forth in Public Contract Code Section 22300. The Contractor shall obtain the written consent of the surety to such agreement. The Public Works Director is authorized to sign such escrow agreements on behalf of the District.

Section 9-1.07B, "Final Payments and Claims," of the Standard Specifications is hereby amended by deleting the introductory phrase "After the acceptance by the Director," and inserting in its place the phrase: "After the Engineer makes a formal recommendation to the Director that the Public Works Department initiates the internal procedures that would allow the Board to accept the work at a future Board meeting,".

5-1.08 Determination of Disputes: Public Contract Code Sections 10240 through 10245.4 shall not be applicable to this contract. Section 9-1.10, "Arbitration," of the Standard Specifications is hereby deleted. All disputes and claims arising under or by virtue of this contract shall be directed to and be determined by the Public Works Director. The Public Works Director's determination of disputes and claims pursuant to these Special Provisions shall constitute the decision of the District.

The parties agree that to the extent Article 1.5 of the Public Contract Code (Public Contract Code Section 20104 et seq) is applicable to any claims made under this contract, nothing in Article 1.5 excuses Contractor's compliance with the claim procedures set forth in the Standard Specifications (as amended by these Contract Documents). Nothing in Article 1.5 extends the time limit or supercedes the notice requirements set forth in the Standard Specifications (as amended by these Contract Documents). The parties mutually agree that all information required of the Contractor under said Standard Specifications (as amended by these Contract Documents) is hereby incorporated into the requirements of Article 1.5.

Article 1.5 (commencing with Section 20104) of Chapter 1 of Part 3 of Division 2 of the Public Contract Code provides as follows:

Article 1.5 Resolution of Construction Claims

20104. (a) (1) This article applies to all public works claims of three hundred seventy-five thousand dollars ($375,000) or less which arise between a contractor and a local agency. (2) This article shall not apply to any claims resulting from a contract between a contractor and a public agency when the public agency has elected to resolve any disputes pursuant to Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2.

(b) (1) "Public work" has the same meaning as in Sections 3100 and 3106 of the Civil Code, except that "public work" does not include any work or improvement contracted for by the state or the Regents of the University of California. (2) "Claim" means a separate demand by the Contractor for (A) a time extension, (B) payment of money or damages arising from work done by, or on behalf of, the Contractor pursuant to the contract for a public work and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or (C) an amount the payment of which is disputed by the local agency.

(c) The provisions of this article or a summary thereof shall be set forth in the plans or specifications for any work which may give rise to a claim under this article.

(d) This article applies only to contracts entered into on or after January 1, 1991.

20104.2. For any claim subject to this article, the following requirements apply: (a) The claim shall be in writing and include the documents necessary to substantiate the claim. Claims must be filed on or before the date of final payment. Nothing in this subdivision is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims.

(b) (1) For claims of less than fifty thousand dollars ($50,000), the local agency shall respond in writing to any written claim within 45 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the local agency may have against the claimant. (2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant. (3) The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 15 days after receipt of the further documentation or within a period of time no greater than that taken by the claimant in producing the additional information, whichever is greater.

(c) (1) For claims of over fifty thousand dollars ($50,000) and less than or equal to three hundred seventy-five thousand dollars ($375,000), the local agency shall respond in writing to all written claims within 60 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the local agency may have against the claimant. (2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant. (3) The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 30 days after receipt of the further documentation, or within a period of time no greater than that taken by the claimant in producing the additional information or requested documentation, whichever is greater.

(d) If the claimant disputes the local agency's written response, or the local agency fails to respond within the time prescribed, the claimant may so notify the local agency, in writing, either within 15 days of receipt of the local agency's response or within 15 days of the local agency's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the local agency shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(e) Following the meet and confer conference, if the claim or any portion remains in dispute, the claimant may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the claimant submits his or her written claim pursuant to subdivision (a) until the time that claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

(f) This article does not apply to tort claims and nothing in this article is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code.

<u>20104.4</u>. The following procedures are established for all civil actions filed to resolve claims subject to this article:

(a) Within 60 days, but no earlier than 30 days, following the filing or responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within 15 days by both parties of a disinterested third person as mediator, shall be commenced within 30 days of the submittal, and shall be concluded within 15 days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by

stipulation of both parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.

(b) (1) If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act of 1986 (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration. (2) Notwithstanding any other provision of law, upon stipulation of the parties, arbitrators appointed for purposes of this article shall be experienced in construction law, and, upon stipulation of the parties, mediators, and arbitrators shall be paid necessary and reasonable hourly rates of pay not to exceed their customary rate, and such fees and expenses shall be paid equally by the parties, except in the case of arbitration where the arbitrator, for good cause, determines a different division. In no event shall these fees or expenses be paid by state or county funds. (3) In addition to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, any party who after receiving an arbitration award requests a trial de novo but does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, pay the attorney's fees of the other party arising out of the trial de novo.

(c) The court may, upon request by any party, order any witnesses to participate in the mediation or arbitration process.

20104.6. (a) No local agency shall fail to pay money as to any portion of a claim which is undisputed except as otherwise provided in the contract.

(b) In any suit filed under Section 20104.4, the local agency shall pay interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the suit is filed in a court of law.

5-1.09 Audit of Records: The Contractor shall maintain and make available for examination and audit by the State Auditor General and/or duly authorized representatives of the State, District, or Federal Governments, all books, papers, accounting records, and other documents pertaining to the cost and performance of this contract.

The Contractor shall retain said books, papers, accounting records, and other documents for a period of three years after the date of final payment under this contract (Government Code Section 8546.7).

5-1.10 Contractor’s Reports: The Contractor shall complete a daily report indicating location worked, total manpower per construction trade for each task, major equipment on site, each subcontractor’s manpower and equipment, weather conditions, and other related information involved in the performance of the work. The daily report shall be completed on forms furnished by the Engineer

and shall be submitted to the Engineer at the conclusion of each workday. The report shall comment on the daily progress and status of the work within each major component of the work.

5-1.11 Removal of Asbestos and Hazardous Substances: When the presence of asbestos or hazardous substances are not shown on the plans or indicated in the specifications and the Contractor encounters materials which the Contractor reasonably believes to be asbestos or a hazardous substance as defined in Section 25914.1 of the Health and Safety Code, and the asbestos or hazardous substance has not been rendered harmless, the Contractor may continue work in unaffected areas reasonably believed to be safe. The Contractor shall immediately cease work in the affected area and report the condition to the Engineer in writing.

In conformance with Section 25914.1 of the Health and Safety Code, removal of asbestos or hazardous substances including exploratory work to identify and determine the extent of the asbestos or hazardous substance will be performed by separate contract.

If delay of work in the area delays the current controlling operation, the delay will be considered a right of way delay and the Contractor will be compensated for the delay in conformance with the provisions in Section 8-1.09, "Right of Way Delays," of the Standard Specifications.

5-1.12 Subcontracting: No subcontract releases the Contractor from the contract or relieves the Contractor of their responsibility for a subcontractor's work.

If the Contractor violates Public Contract Code §4100 et seq., the District may exercise the remedies provided under violates Public Contract Code §4100. The District may refer the violation to the Contractors State License Board as provided under Public Contract Code §4111.

The Contractor shall perform work equaling at least 30 percent of the value of the original total bid with the Contractor's own employees and equipment, owned or rented, with or without operators.

Each subcontract shall comply with the contract.

Each subcontractor shall have an active and valid State contractor's license with a classification appropriate for the work to be performed (Business and Professions Code, §7000 et seq.).

The Contractor shall submit copies of subcontracts upon request by the Engineer.

The Contractor shall submit a Subcontracting Request form prior to commencement of that portion of the work.

The Contractor shall not use a debarred subcontractor. Pursuant to the provisions in Section 1777.1 of the Labor Code, the Labor Commissioner publishes and distributes a list of contractors ineligible to perform work as a subcontractor on a public works project. This list of debarred contractors is available from the Department of Industrial Relations web site at:

http://www.dir.ca.gov/DLSE/Debar.html

Upon request by the Engineer, the Contractor shall immediately remove and not again use a subcontractor who fails to prosecute the work satisfactorily.

5-1.13 Construction Submittals: Construction project submittals, including shop drawings and manufacturer's product specifications, shall be supplied for all material, equipment items, and for other items of work required by its contract documents. The Contractor shall supply 5 copies of manufacturer's scaled, dimensioned shop drawings complete with all information required to describe the item and demonstrate compliance with contract drawings and these specifications. Submittals will only be accepted from the Contractor (not sub-contractor or material supplier). Neither fabrication nor onsite preparation shall be started before receipt of written review from the County.

Each submittal shall be sequentially numbered, dated, and appropriately titled with the specification number and description.

The Contractor's responsibility for errors, omissions, and deviations from the requirements of the contract documents in submittals is not relieved by the County's review. The Contractor shall be responsible for confirming and correlating all quantities and dimensions, the compatibility of different components, selecting fabrication processes and techniques of construction, coordinating its work with that of other trades or other contractors at the site, and performing its work in a safe and satisfactory manner. The County will require 10 working days for submittal review. No claim will be allowed for damages or extensions of time because of delays in work resulting from rejection of material or from revisions and resubmittal of shop drawings, project data, or samples.

Resubmittals will be reviewed and returned in the same review period as the original submittals. It is considered reasonable that the Contractor shall make a complete and acceptable submittal by the second submission. The Engineer reserves that right to withhold monies due to the Contractor to cover additional costs of any review beyond the second submittal. Full compensation for preparing submittals and shop drawings, as required, shall be considered as included in the contract items of work involved and no additional compensation will be allowed therefor.

5-1.14 Means and Methods: The Engineer will not have control over, be in charge of, nor be responsible for construction means, methods, techniques, sequences, or procedures, or for the safety precautions and programs in connection with the work, since these are solely Contractor's responsibility, unless otherwise required by the Contract Documents.

5-1.15 Legal Address of the Contractor: Both the address given in the proposal and the Contractor's office in the vicinity of the work are hereby designated as places to either of which drawings, letters, notices, or other articles or communications to the Contractor may be mailed, transmitted electronically, or delivered. The mailing, electronic transmission, or delivery at either of these places shall be deemed sufficient notice thereof upon the Contractor.

Nothing herein contained shall be deemed to preclude the service of any drawing, letter, notice, article, or communication to, or upon, the Contractor or Contractor's representative personally. The address named in the proposal may be changed at any time by written notice from the Contractor to the Engineer.

5-1.16 Weekly Progress Meetings: Weekly meetings shall be held at the project site to review the progress of the work and to discuss any problems which may have occurred. Meeting shall include the Engineer, inspectors, and the Contractor's foreman. The Contractor shall provide an updated schedule at the weekly meeting.

Full compensation for preparing updated schedules and attending the progress meetings, as required, shall be considered as included in the contract items of work involved and no additional compensation will be allowed therefor.

5-1.17 Government Code Claim Requirements: Nothing in these Contract Documents shall excuse a Contractor from fully complying with the requirements of Part 3 of Division 3.6 of title 1 of the Government Code (commencing with section 900). Said requirements must be complied with before filing any claim in any court of law, and are in addition to the other claims procedures set forth in the Contract Documents. Nothing contained in these Contract Documents shall be considered a substitute or alternative procedure for complying with the requirements of Part 3 of Division 3.6 of Title 1 of the Government Code (commencing with section 900.)

5-1.18 Solid Waste Management: For the purpose of complying with San Luis Obispo County Code, Title 8, Health and Sanitation, Chapter 8.12, "Solid Waste Management," the Contractor shall recycle at least 50% of the construction and demolition waste generated by the project.

The following is a list of IWMA-Certified Recycling Facilities:

C&D Recycling Facility at Cold Canyon Landfill	805-549-8332
C&D Recycling Facility at Chicago Grade Landfill	805-466-2985
North SLO County Recycling	805-434-0043
API (roll-off/debris box company)	805-928-8689
R&R (a roll-off/debris box company)	805-929-8000
Recycling Facility at the Paso Robles Landfill	805-238-2028
Santa Maria Transfer Station	805-922-9255
Bedford Enterprises/SMART	805-922-4977

The Contractor shall complete and sign the “RECYCLING PLAN” form in conformance with the provisions in Section 4-1.03, “Contract Submittals,” of these Special Provisions. This form must be submitted and approved prior to receiving the Notice to Proceed.

This form must show how at least 50% of the project construction and demolition waste will be recycled.

The Contractor shall maintain receipts or other documentation for any facility or site that received waste from the project.

The Contractor shall submit a complete and accurate “DISPOSAL REPORT” form with original receipts and supporting documentation. This form must be submitted and approved prior to receiving the Notice of Completion.

If the Contractor fails to submit the required information showing the 50% recycling goal was met, the District could impose a penalty equal to 2 percent of the total contract amount.

Full compensation for complying with these requirements shall be considered as included in the prices paid for the various items of work generating such construction and demolition waste and no additional compensation will be allowed therefor.

The following are copies of the “RECYCLING PLAN” and “DISPOSAL REPORT” forms:

RECYCLING PLAN FOR DISTRICT PROJECTS

SECTION 1. PROJECT INFORMATION

Contract Title	Contractor Name	
	Contractor Phone	Contractor Fax
Contract Number	Street Address	
Total Contract Amount	City, State, Zip	
Print Name and Title	Signature	Date

SECTION 2. RECYCLING PLAN

	Before Construction (estimated tons)				
	Landfill	Recycling Facility		Reuse	
Materials	(Tons)	(Tons)	Location	(Tons)	Location
Cleared Vegetation					
Asphalt Concrete					
Concrete					
Metals (including spent equipment)					
Lumber					
Drywall					
Mixed Recyclables					
Trash					
Totals					
% Diversion					

Official Use Only

Recycling Plan Approved ☐	Recycling Plan Denied ☐	
Information Required:		
Print Name and Title	Signature	Date

DISPOSAL REPORT FOR DISTRICT PROJECTS

SECTION 1. PROJECT INFORMATION

Contract Title	Contractor Name	
	Contractor Phone	Contractor Fax
Contract Number	Street Address	
Total Contract Amount	City, State, Zip	

Contractor Certification: I certify under penalty of perjury that the information provided in this form is complete and accurate.

Print Name and Title	Signature	Date

SECTION 2. DISPOSAL REPORT

	After Construction (actual tons)				
	Landfill	Recycling Facility		Reuse	
Materials	(Tons)	(Tons)	Location	(Tons)	Location
Cleared Vegetation					
Asphalt Concrete					
Concrete					
Metals (including spent equipment)					
Lumber					
Drywall					
Mixed Recyclables					
Trash					
Totals					
% Diversion					

I have reviewed and approved the information submitted in this report for completeness

Resident Engineer's Name:	Signature:	Date:

Official Use Only

Disposal Report Approved ☐	Disposal Report Denied ☐

Information Required

Print Name and Title	Signature	Date

SECTION 6. (*BLANK*)

SECTION 7. (*BLANK*)

SECTION 8. *(BLANK)*

SECTION 9. DESCRIPTION OF WORK

The work for this project involves construction of a boulder weir and rock riffle structure within Arroyo Grande Creek near Rodriguez Bridge in Arroyo Grande, California, including dewatering, clearing and grubbing, erosion control measures, temporary access roads, excavation, backfill, off-hauling, engineered streambed material placement, weir boulder placement, water jetting, log structures, soil pockets for planting of native vegetation, erosion control seeding, and such other items or detail work not mentioned herein that are required by the Drawings, the Standard Specifications, Standard Plans, or these Special Provisions.

SECTION 10. CONSTRUCTION DETAILS

SECTION 10-1. GENERAL

10-1.01 **Order of Work:** Order of work shall conform to the provisions in Section 5-1.05, "Order of Work," of the Standard Specifications and these Special Provisions.

Contractor's attention is directed to the construction timing limitations provided in the attached Environmental Permit Summary Form. **ALL WORK SHALL BE COMPLETE NO LATER THAN OCTOBER 31ST.**

Contractor shall begin work within five (5) working days of the date of receipt of the Notice to Proceed.

Contractor's attention is directed to the timing requirements of submittals identified in Section 4-1.03, "Submittals" and these Special Provisions that require review by the Engineer prior to initiating work or ordering material. It shall be the Contractor's responsibility to insure that adequate lead time is provided for review and approval of all submittals and for ordering of all materials required for construction of the improvements under this Contract.

Contractor's attention is directed to the requirements of these Special Provisions that require the Contractor to coordinate with the District biologist regarding monitoring and fish removal during dewatering and diversion activities. The Contractor's attention is also directed to requirements to coordinate with the District regarding the District's planting of live stake bundles and native vegetation when undertaking placement of Engineered Streambed Material and installation of fabric-wrapped soil pockets. The Contractor's schedule shall account for said coordination.

Contractor shall coordinate with Engineer as to the actual order of work planned to facilitate construction and that order shall be reflected in the progress schedule required elsewhere in these Special Provisions.

After having received written notice to proceed, and within the "Beginning of Work" stated time found in Section 4-1.01, "Prosecution and Progress of the Work", of these Special Provisions, Contractor shall have the required training scheduled prior to initiating any work. The first order of work once the training is complete shall involve the installation of the required construction areas signs and the temporary fence (Type ESA) in accordance with these Special Provisions before performing other work on the job site.

Attention is directed to Section 5-1.03 of these Special Provisions regarding requesting stakes or marks to be set for construction purposes and submitting a tentative schedule of all anticipated staking requests.

All work under this Contract shall be conducted in a manner which will minimize shutdowns, open roadways, or traffic obstructions caused by the construction. Shutdowns causing damage to adjacent public and private property shall not be permitted, and any damage resulting shall be the sole responsibility of the Contractor.

Full compensation for conforming to these requirements will be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed therefor.

10-1.02 **Progress Schedule:** Attention is directed to Section 5-1.05 of the Special Provisions regarding submittal of progress schedules. The Contractor's attention is directed to the final work completion date described in Section 10-1.01 "Order of Work" of these Special Provisions.

10-1.03 **Working Hours:** Work shall be performed during normal work-week – 7:00 a.m. to 7:00 p.m., Monday through Friday, excluding County Holidays. Work shall not be performed at any time other than the normal work-week without obtaining written approval from the Engineer at least 4 (four) calendar days in advance. All non-emergency work activities shall be confined to daylight hours.

10-1.04 **Submittals:** In addition to the submittal requirements specified in Section 4-1.03, the Contractor shall submit submittals as follows:

Contractor shall submit four copies of all submittals required in these Special Provisions. The District will keep three copies and return the other copy to the Contractor. If the Contractor desires more than one copy, he shall transfer the Engineer's comments onto additional copies at his/her own expense.

Submittals shall contain the following:

a. The Project title and Contract number
b. Date of submission
c. Specification Section and the drawing detail to which each shop drawing and/or manufacturer literature is referenced to
d. All the dates of any previous submission
e. Clearly marked catalog cut sheets and manufacturer literature to show which model proposed, all pertinent data, capacities, dimensions, clearances, diagrams, paintings/coatings, material list, and connections
f. Shop drawings with field dimensions clearly identified showing the relationship of the item to adjacent materials.
g. Identification of any deviation from the contract documents. If there are any deviations from the contract documents, the Contractor shall submit an approved equivalent material or working drawings in accordance with Section 6-1.05, "Trade Names and Alternatives" of the Standard Specifications for approval by the Engineer.

Make submittals promptly in such sequence as to cause no delay in the work. Time allowed for Engineer to review original and any resubmittal shall be a minimum of 10 (ten) working days after receipt by the Engineer. Unless other arrangements are made with the Engineer, no items of work pertaining to the submittals shall be permitted until the reviewed submittals are approved.

It is considered reasonable that the Contractor shall make a complete and acceptable submittal by the second submission. The Engineer reserves that right to withhold monies due to the Contractor to cover additional costs of any review beyond the second submittal.

Submittals are reviewed by the Engineer for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. The Contractor shall be responsible for confirming and correlating all quantities and dimensions, the compatibility of different components, selecting fabrication processes and techniques of construction, coordinating its work with that of other trades or other contractors at the site, and performing its work in a safe and satisfactory manner.

Submittals will only be accepted from the Contractor (not sub-contractor or material supplier).

Full compensation for conforming to the requirements of this section shall be considered as included in the contract items of work involved and no separate payment will be made therefor.

10-1.05 **Certificates of Compliance:** A certificate of compliance shall be furnished for all materials delivered to the work site. Certificates of compliance shall conform to the provisions in Section 6-1.07 “Certificates of Compliance” of the Standard Specifications.

10-1.06 **Record Drawings and Specifications:** The Contractor shall keep at the project site a copy of the drawings and specifications, including addenda and change orders, to which the Engineer shall have access at all times.

The Contractor shall maintain one (1) set of specifications and full size plans and mark thereon any deviation from plan dimensions, elevations, or orientations, and all changes from addenda, change orders, and clarifications. The Contractor shall submit the record drawings in good condition to the Engineer upon completion of Contract work as a condition of acceptance of the work. Marked prints shall be updated at least weekly during construction operations and shall be available to the Engineer for review.

Full compensation for conforming to the requirements of this section shall be considered as included in the contract items of work involved and no separate payment will be made therefor.

10-1.07 **Final Pay Items:** Section 9-1.015, “Final Pay Items”, of the Standard Specifications is hereby amended as follows:

When an item of work is designated as (F) on the Bid Proposal Form, the estimated quantity for that item of work shall be the final pay quantity, unless the dimensions of any portion of that item are revised by the Engineer, or the item or any portion of the item is eliminated. If the dimensions of any portion of the item are revised, and the revisions result in an increase or decrease in the estimated quantity of that item of work, the final pay quantity for the item will be revised in the amount represented by the changes in the dimensions, except as otherwise provided for minor structures in Section 51-1.22, "Measurement." If a final pay item is eliminated, the estimated quantity for the item will be eliminated. If a portion of a final pay item is eliminated, the final pay quantity will be revised in the amount represented by the eliminated portion of the item of work.

The estimated quantity for each item of work designated as (F) on the Bid Proposal Form shall be considered as approximate only, and no guarantee is made that the quantity which can be determined by computations, based on the details and dimensions shown on the plans, will equal the estimated quantity. No allowance will be made in the event that the quantity based on computations does not equal the estimated quantity.

In case of discrepancy between the quantity shown on the Bid Proposal Form for a final pay item and the quantity or summation of quantities for the same item shown on the plans, payment will be based on the quantity shown on the Bid Proposal Form.

10-1.08 **Protection of Property:** All structures, road improvements, bridges, walls, pipelines, concrete encasements bridge piers, bridge abutments, agricultural areas, agricultural equipment, private improvements, and other equipment and material within the vicinity of the project site shall be protected at all times from the Contractor’s operations at the Contractor’s expense. Any damage to property caused by the Contractor’s operations shall be repaired by the Contractor at the Contractor’s expense.

Access to the project site will be over public and private roads. Contractor shall exercise care in the use of such roads and shall be responsible to repair at own expense any damage thereto caused by Contractor’s operations. Such repair shall be to the satisfaction of the District or agency having jurisdiction over the road.

10-1.09 **Materials Hauling Equipment Loading on Bridges:** The operation of materials hauling equipment on bridges shall conform to the provisions in Section 7-1.02, "Load Limitations," of the Standard Specifications and these Special Provisions.

The Contractor's attention is directed to the weight limits for Rodriguez Bridge noted on the Drawings and posted near Rodriguez Bridge. At no time shall the Contractor exceed these limits.

The weight of loaded materials hauling equipment shall be verified by weighing when required by the Engineer. Scales will be of the individual wheel or axle type as furnished by the State. The weighing will be done within the limits of the project and within the State highway right of way at a location accessible to the equipment and suitable for weighing operations. The exact location of the weighing shall be determined by the Contractor. The work of installing and maintaining the scales, when ordered by the Engineer, will be paid for as extra work as provided in Section 4-1.03D of the Standard Specifications.

Full compensation for conforming to the requirements of this section, including all costs involved in the weighing of loaded materials hauling equipment not otherwise provided for herein, shall be considered as included in the contract prices paid for the various items of work involved and no additional compensation with be allowed therefor.

10-1.10 **Existing Facilities:** The work performed in connection with various existing facilities and utilities shall conform to the provisions in Section 8-1.10, "Utility and Non-Highway Facilities", and Section 15, "Existing Highway Facilities", of the Standard Specifications and these Special Provisions.

The locations of existing utilities where shown on the plans are based on available records and are approximate only. The Contractor shall perform pothole/exploratory excavations to identify any potential utility conflicts with the proposed work within the project limits. The Contractor shall assume sole and complete responsibility for locating or having located all underground utilities and other facilities and for protecting the same during the course of constructing the project. Any deviations from the plan location of any existing facilities shall be immediately brought to the attention of the Engineer.

The following utility companies are known to have existing facilities and/or services within the project limits:

Company	Contact Person	Phone Number
AT&T	Neil Zakaria	(805) 546-7012

Underground Service Alert ("USA") shall be contacted a minimum of 48 hours prior to the start of construction at (800) 227-2600. Contractor shall provide to the Engineer, the USA ticket for verification.

Abandoned utilities that interfere with the work of this contract shall be removed and disposed of by the Contractor.

Full compensation for conforming to the requirements of this section, including locating, protecting, or repairing property, removing and disposing of abandoned utilities, and coordinating with utility companies shall be considered as included in the contract prices paid for the various items of work involved and no additional compensation with be allowed therefor.

10-1.10A **Obstructions:** If existing utility or facility obstructions occur at locations other than shown on the Drawings, the Contractor shall notify the Engineer immediately, and a method for correcting said obstructions shall be supplied by the Engineer. Payment for obstructions that are not shown on the plans, nor which may be inferred from surface indications, shall be in accordance with the Special Provisions.

Any necessary relocations of utilities, whether shown on the Drawings or not, shall be coordinated with the affected utility. The Contractor shall perform the relocation only if instructed to do so in writing from the utility and the Engineer.

10-1.11 **Environmental Mitigation Measures:** The Contractor's work shall be in compliance with all conditions and mitigation measures identified in the attached Environmental Permit Summary Form. Specifically, Contractor shall be responsible for performing work in accordance with those conditions and measures labeled as "Contractor" or "Both" in the Responsibility column of the Environmental Permit Summary Form. It shall be the Contractor's responsibility to read and understand the conditions and mitigation measures identified in the Environmental Permit Summary Form.

The District will be responsible for providing the services of a qualified biologist to satisfy the conditions and mitigation measures that require the services of a biologist. The District-supplied biologist's services will include, but not be limited to, conducting environmental training, performing environmental surveys, identification and relocation of steelhead and other species, reporting, correspondence with environmental agencies, and revegetation activities not specifically identified in these Special Provisions or shown on the Drawings. **The Contractor shall provide construction site access to the District biologist and shall allow time in the construction schedule to coordinate construction activities with biologist's work efforts.**

The Contractor's attention is specifically directed to the following environmental conditions and mitigations (this list does not relieve the Contractor from complying with other items identified in the Environmental Permit Summary Form):

1. Construction shall take place only during the dry season, beginning no earlier than June 1 and ending no later than October 31.
2. If a 25% chance or more of rain is predicted within 24 hours, all construction activities must cease and effective erosion and sediment

control measures must be implemented. Construction activities may resume after the event has passed.

3. Before any construction activities begin on the project, a biologist shall conduct a training session for all construction personnel.
4. Prior to any activity within the stream, Contractor shall identify the limits of the required access routes and encroachments into the stream and ponded areas. These “work area” limits shall be identified with brightly colored fencing to avoid equipment and human intrusion into adjacent creek/wetland habitats. The fencing shall remain in place throughout construction.
5. All staging areas for equipment, vehicle fueling and material storage must be located at least 100 feet away from waterways, in a location where fluids cannot flow into waterways.
6. Small shrubby vegetation within the area of construction disturbance shall be removed by hand prior to the use of heavy equipment or machinery in order to minimize the possibility of injuring California Red-Legged Frogs and other wildlife. Contractor may coordinate with the biologist to identify specific areas and types of vegetation to be removed.
7. No construction activity shall occur within the live stream to avoid impacts to southern steelhead.
8. Construction vehicle access to the stream’s banks and bed shall be limited to predetermined ingress and egress corridors.
9. Any dewatering activities shall be done in a manner that prevents pollution and/or siltation to downstream reaches. Infiltrating groundwater removed from excavations shall be pumped to a low-gradient vegetated upland area before discharging into the stream channel in a manner that does not cause erosion. Other filtration methods may also be used.
10. If the work is to be temporarily dewatered by pumping, intakes shall be completely screened with wire mesh not larger than five millimeters (5 mm) to prevent California red-legged frogs and southern steelhead from entering the pump system. Water shall be released or pumped downstream at an appropriate rate to maintain downstream flows during construction.
11. The District’s biologist shall continuously monitor placement and removal of stream diversion facilities for removing steelhead. The biologist shall capture and relocate steelhead stranded in residual wetted areas as a result of streamflow diversion and workspace dewatering.

Full compensation for compliance with the environmental conditions and mitigation measures described in this section and all other construction-related measures identified in the Environmental Permit Summary Form shall

be considered as included in the contract prices paid for the various items of work involved and no additional compensation with be allowed therefor.

10-1.12 **Temporary Construction Facilities and Controls:** The Contractor shall provide and/or construct all temporary construction facilities and controls necessary to complete all project work in a safe manner for the public and project personnel; in compliance with all laws, ordinances, codes and regulations; in compliance with all environmental permit conditions and mitigation measures; and in accordance with the Drawings, Standard Specifications and these Special Provisions.

10-1.12A **Mobilization:** Mobilization shall conform to the provisions in Section 11, "Mobilization", of the Standard Specifications and these Special Provisions. Work required for providing submittals identified in Section 4-1.03 of these Special Provisions and not specifically included in other items of work shall be considered part of Mobilization.

10-1.12B **Construction Area Signs:** Construction area signs shall conform to the provisions of Section 12, "Construction Area Traffic Control Devices", of the Standard Specifications and these Special Provisions.

The contractor shall furnish all sign panels, posts and hardware. The Contractor shall also erect and maintain all construction area signs shown on the plans and/or specified in these Special Provisions. The Contractor is responsible for having any underground utilities marked where sign posts will be placed. Construction area signs shall not be used until they are needed and when no longer needed, they shall be removed from the site of the work by the Contractor.

The base material of construction area signs shall not be plywood. Used sign panels in good repair, as determined by the Engineer, may be used. If determined by the Engineer, signs damaged by any cause shall be repaired or replaced by the Contractor at the Contractor's own expense.

10-1.12C **Traffic Control:** Contractor shall be responsible for providing all traffic control measures and/or devices needed to provide and maintain safe access to the traveling public on roadways adjacent to the project site. Contractor shall maintain free access to all fire hydrants, water valves and meters, private driveways and farm roads. Access across Rodriguez Bridge shall be provided to traffic at all times with minimal to no delay.

If flagging is required to maintain traffic during Contractor's operations, the cost of furnishing all flaggers shall be paid in accordance to Section 12-2.02 of the Standard Specifications. The Contractor's portion of these costs, if necessary, shall be included in the work required in Traffic Control.

10-1.12D **Construction Water:** The Contractor shall obtain and apply all water required for performance of all the work in this contract.

Contractor may obtain construction water by pumping water from Arroyo Grande Creek, provided that Contractor's dewatering/diversion system will support pumping from the creek. All such pumping shall comply with the environmental permit conditions set forth in the attached "Environmental Permit Summary Form". If, in the opinion of the Engineer, pumping from Arroyo Grande Creek reduces downstream creek flows below acceptable levels, the contractor shall reduce or stop pumping and obtain construction water from another source.

Contractor may also obtain construction water by filling water trucks from a fire hydrant located at the Lopez Water Treatment Plant (approximately 2 miles from the project site). The District will permit the Contractor to use water free of charge for construction operations on this project only. If it is determined by the Engineer that Contractor's use of water is excessive or wasteful, the District will charge the Contractor for water usage at a rate to be determined at the time of the Engineer's determination.

10-1.12E **Electrical Power:** The Contractor shall furnish all power required for performance of all the work in this contract.

10-1.12F **Sanitary Facilities:** The Contractor shall supply and maintain adequate toilet facilities at or near the work site. All sanitary facilities shall be removed from the site when work is complete.

10-1.12G **Staging/Storage Areas:** Contractor shall only use staging/storage areas shown on the Drawings. Contractor shall supply all materials required to construct staging/storage areas in accordance with the Contractor's needs. If said materials are not available on site, Contractor shall import said materials. All project equipment and materials shall be stored, maintained and refueled within an approved designated staging/storage area. Use of staging/storage areas shall comply with the environmental conditions and mitigation measures identified in the Environmental Permit Summary Form.

If the Contractor's operations require staging/storage space in addition to that shown on the Drawings, Contractor may propose additional site(s) to be designated as staging and storage areas. All such additional sites shall be approved by the Engineer prior to use. Contractor shall be responsible for making arrangements for the use of all additional staging/storage areas in accordance with all local, State and Federal regulations at his own expense.

Contractor shall remove all staging/storage areas at the completion of work and shall restore areas to pre-existing grades and conditions.

10-1.12H **Temporary Access Road:** The Contractor shall be responsible to construct a temporary access road in the location shown on the Drawings. The access road shall be capable of supporting Contractor's equipment and operations. Contractor shall supply all materials required to construct the temporary

access ramp. If said materials are not available on site, Contractor shall import said materials. If, in the opinion of the Engineer, surfacing (base, rock, etc.) is required to improve serviceability, Contractor shall surface the temporary access road appropriately at no extra cost to the District.

Contractor's attention is directed to the existing improvements near the temporary access road.

1. Contractor shall protect in place all portions of Rodriguez Bridge, including but not limited to bridge piers, bridge deck and bridge abutment.
2. Contractor shall temporarily relocate any existing signs in conflict with the temporary access road to a location of the Engineer's choosing. Contractor shall reinstall said signs in their original relocation at when project work is complete.
3. Contractor shall either protect the existing AC dike in place at the entrance of the temporary access road and staging/storage area or remove the AC dike and reinstall a new AC dike when project work is complete.

Work to construct all other access roads and/or facilities needed to access the work from the temporary access road shall be considered included in temporary access road work.

Contractor shall remove all temporary access roads and facilities at the completion of work and shall restore disturbed areas to pre-existing grades and conditions.

10-1.12I **Tree Protection:** Contractor shall provide and erect tree protection as shown on the Drawings or directed by the Engineer. Tree protection shall be maintained and repaired during construction and shall be removed at the completion of project work.

10-1.12J **Erosion Control:** Contractor's attention is directed to the erosion control requirements in the Environmental Permit Summary Form and the "Water Pollution Control" section of these Special Provisions.

The erosion control devices shown on the Drawings are a schematic representation of what may be required. It is the Contractor's responsibility to identify, provide, install, maintain and remove all additional erosion control devices needed to control drainage and erosion affected by the Contractor's operations that are not shown on the drawings, identified in the Water Pollution Control Program or the Environmental Permit Summary Form, or specifically provided for in other items of work in these Special Provisions. Work efforts related to these additional erosion control devices shall be considered Temporary Construction Facilities and Controls.

10-1.12K **General Safety:** Contractor's attention is directed to Section 7-1.09, "Public Safety", of the Standard Specifications. The Contractor shall be responsible for general safety during construction and shall furnish, install and maintain all

warning signs and devices necessary to safeguard the public, project personnel and the work.

10-1.12L **Trench Safety:** The Contractor, prior to beginning any trench or structure excavation 5 feet deep or over, shall submit to the Engineer and shall be in receipt of the Engineer's written acceptance of the Contractor's detailed plan showing design of all shoring, bracing, sloping of the sides of excavation, or other provisions for worker protection against the hazard of caving ground during the excavation of such trenches or structure excavation. The Contractor's attention is directed to the provisions for "Shoring and Bracing Drawings" in Section 6705 of the California Labor Code. If such plan varies from the shoring system standards established in the Construction Safety Orders of the State of California, such alternative systems plans shall be prepared by a Civil or Structural Engineer licensed in the State of California.

10-1.12M **Security:** The Contractor shall, at all times, be responsible for security of their plant, construction materials, tools and equipment. Materials and equipment shall be stored so as to ensure the preservation of their quality and fitness for the work. The Contractor shall be responsible for all damages that occur in connection with the care and protection of all materials and equipment supplied by the Contractor, until completion and final acceptance of the project work by the Engineer.

10-1.12N **Final Site Clean-up:** Prior to final demobilization from the worksite, Contractor shall remove from the vicinity of the completed work and adjacent property and streets, all rubbish, unused materials, concrete forms, construction equipment, and temporary structures and facilities used during construction. All parts of the work shall be left in a neat and presentable condition. All disturbed areas and surfaces shall be returned to their original condition unless otherwise shown on the plans or specified in these Special Provisions.

10-1.12O **Payment:** Payment for conforming with the provisions of this section, "Temporary Construction Facilities and Controls", shall be as follows:

The contract lump sum price paid for **"TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS"** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in providing, maintaining and removing temporary construction facilities and controls required to complete the work, including, but not limited to, mobilization and work efforts performed prior to beginning work; water pollution control and Water Pollution Control Program preparation and implementation; construction site management; construction area signs; traffic control; construction water; electrical power; sanitary facilities; staging/storage areas and temporary access roads, including, but not limited to, material import, grading, compaction, surfacing, sign relocation and AC dike removal and reinstallation; tree protection; erosion control measures and devices not specifically mentioned or addressed under other pay items;

establishment of other facilities necessary for work on the project; safety, trench safety and site security; final site clean-up and restoration; and all appurtenant work and materials, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as Directed by the Engineer, and no additional compensation will be allowed therefor.

10-1.13 **Air Pollution Control:** Air Pollution Control will be required for this project and shall conform to the provisions in Section 7-1.01F, "Air Pollution Control," of the Standard Specifications.

All portable internal combustion engines and other portable equipment used during construction activities and rated at 50 HP or above shall possess a California statewide portable equipment registration (issued by the California Air Resources Board). If any such portable equipment does not possess said registration, Contractor shall acquire a Permit to Operate for the unregistered equipment from the San Luis Obispo County Air Pollution Control District ("APCD"). For more information, contact the APCD at (805) 781-5912.

During construction/ground disturbing activities, the contractor shall implement the following measures to reduce ozone precursor emissions. These measures are as follows:

a. The Contractor shall maintain all construction equipment in proper tune according to manufacturer's specifications.
b. To reduce ozone precursor emissions, fuel all off-road and portable diesel powered equipment, including but not limited to bulldozers, graders, cranes, loaders, scrapers, backhoes, generator sets, compressors, auxiliary power units, with ARB certified motor vehicle diesel fuel (nontaxed version suitable for use off-road).
c. Maximize to the extent feasible, the use of diesel construction equipment meeting the ARB's 1996 or newer certification standard for off-road heavy-duty diesel engines.

Full compensation for conforming to the requirements of this section shall be considered as included in the contract items of work involved and no additional compensation will be made therefor.

10-1.14 **Water Pollution Control:** Water Pollution Control includes Water Pollution Control Program (WPCP), Construction Site Management and temporary and permanent water pollution control measures.

The Contractor shall perform water pollution control work in conformance with the requirements in the State Department's "Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual" (Preparation Manual) and its addenda in effect on the day the Notice to Proceed is dated. The Preparation Manual and other references are available from the Caltrans' Construction Storm Water and Water Pollution Control web site at:

http://www.dot.ca.gov/hq/construc/stormwater/stormwater1.htm

10-1.14A **Water Pollution Control Program (WPCP):** The Water Pollution Control Program (WPCP) shall conform to the requirements of Section 7-1.01G,"Water Pollution," of the State Standard Specifications and these Special Provisions. The work includes preparing a WPCP, obtaining WPCP acceptance, amending the WPCP, and reporting on water pollution control practices at the job site. **No work shall begin until the WCPC is accepted by the Engineer.**

Definitions and Abbreviations

BMPs: Best Management Practices are water pollution control practices

BMP Manual: The Department's Construction Site Best Management Practices (BMP) Manual.

Dewatering Guide: The Department's Field Guide to Construction Site Dewatering.

Minor spills: Small quantities of oil, gasoline, paint, or other material that are small enough to be controlled by a first responder upon discovery of the spill.

Preparation Manual: The Department's Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual.

Semi-significant spills: Spills that can be controlled by a first responder with help from other personnel.

Significant or hazardous spills: Spills that cannot be controlled by construction personnel.

QSD: Qualified SWPPP Developer

QSP: Qualified SWPPP Practitioner

SWPPP: Storm Water Pollution and Prevention Plan

WPC: Water Pollution Control

WPCM: Water Pollution Control Manager

WPCP: Water Pollution Control Program

General Requirements

The WPCP shall include water pollution control practices:

1. For storm water and non-storm water from areas outside of the job site related to construction activities for this contract such as:
   - Staging areas
   - Storage yards
   - Access roads
2. For activities or mobile operations related to contractor NPDES permits
3. Construction support facilities
   - Staging areas
   - Storage yards for equipment and materials
   - Mobile operations
   - Crushing plants for rock and aggregate
   - Other facilities installed for your convenience such as haul roads

The WPCP shall include a schedule that:

1. Describes when work activities will be performed that could cause the discharge of pollutants in storm water
2. Describes water pollution control practices associated with each construction phase
3. Identifies soil stabilization and sediment control practices for disturbed soil areas

The WPCP must include a copy of permits obtained by the County such as Fish & Game permits, US Army Corps of Engineers permits, RWQCB 401 Certifications, and RWQCB Waste Discharge Requirements for Aerially Deposited Lead Reuse.

The Contractor shall amend the WPCP when:
1. Changes in work activities could affect the discharge of pollutants
2. Water pollution control practices are added by change order work
3. Water pollution control practices are added by your discretion

WPCP amendments require review and acceptance by the Engineer.

The Contractor may request, or the Engineer may order, changes to the water pollution control work. Changes may include addition of new water pollution control practice. Additional water pollution control work not already provided for in the Plans or these Special Provisions is change order work.

The Contractor shall retain a printed copy of the WPCP at the job site.

Water Pollution Control Manager
The Contractor shall assign and designate in writing one Water Pollution Control Manager (WPCM) to implement the WPCP. Contractor may assign a different QSP to prepare the WPCP.

The WPC Manager must comply with the Permit (Order No. 2009-0009-DWQ, NPDES No. CAS000002) for a QSP by having at least one of the following qualifications:
1. Certified Erosion, Sediment and Storm Water Inspector (CESSWI)™ registered through Enviro Cert International, Inc.
2. Certified Inspector of Sediment and Erosion Control (CISEC) registered through CISEC, Inc.
3. Qualifications described in the Permit (Order No. 2009-009-DWQ, NPDES No. CAS000002) for a QSD.
4. Department approved storm water management training described in the Department's "Construction Storm Water and Water Pollution Control" web site.

At the job site, the Water Pollution Control Manager must:
1. Be responsible for water pollution control work
2. Be the primary contact for water pollution control work
3. Oversee the maintenance of water pollution control practices

4. Oversee and enforce hazardous waste management practices
5. Have the authority to mobilize crews to make immediate repairs to water pollution control practices
6. Ensure that all employees have current water pollution control training
7. Implement the accepted WPCP and amend the WPCP when required

Water Pollution Control Manager must oversee:
1. Inspections of water pollution control practices identified in the WPCP
2. Inspections for visual monitoring

Training

Provide storm water training for:
1. Project managers
2. Supervisory personnel
3. Employees involved with water pollution control work

Train all employees, including subcontractor's employees, in the following:
1. Water pollution control rules and regulations
2. Implementation and maintenance for:
   - 2.1. Temporary Soil Stabilization
   - 2.2. Temporary Sediment Control
   - 2.3. Tracking Control
   - 2.4. Wind Erosion Control
   - 2.5. Material pollution prevention and control
   - 2.6. Waste management
   - 2.7. Non-storm water management
   - 2.8. Identifying and handling hazardous substances
   - 2.9. Potential dangers to humans and the environment from spills and leaks or exposure to toxic or hazardous substances

Employees must receive initial water pollution control training before working on the job.

Conduct weekly training meetings covering:
1. WPC BMP deficiencies and corrective actions
2. BMPs that are required for work activities during the week
3. Spill prevention and control
4. Material delivery, storage, use, and disposal
5. Waste management
6. Non-storm water management procedures

Implementation Requirements

Monitor the National Weather Service Forecast Office on a daily basis. For forecasts, go to:
http://www.srh.noaa.gov/forecast

Whenever the Contractor or the Engineer identifies a deficiency in the implementation of the accepted WPCP:

5. Correct the deficiency immediately, unless the Engineer authorizes an agreed date for correction
6. Correct the deficiency before precipitation occurs

If Contractor fails to correct the deficiency by the agreed date or before the onset of precipitation, the District may correct the deficiency and deduct the cost of correcting the deficiency from payment.

If Contractor fails to comply with "Water Pollution Control" of these Special Provisions, the Engineer will order a suspension of work until the project complies with the requirements of "Water Pollution Control" of these Special Provisions.

The Contractor's responsibility for WPCP implementation shall continue throughout any temporary suspension of work ordered in conformance with the provisions in Section 8-1.05, "Temporary Suspension of Work," of the Standard Specifications.

Install water pollution control practices within 15 days or before predicted precipitation, whichever occurs first.

If actions for Contractor’s convenience disturb one or more acres, Contractor must pay all costs and be responsible for all delays associated with complying with Order No. 2009-0009-DWQ, NPDES General Permit No. CAS000002) issued by the SWRCB for "Storm Water Discharges Associated with Construction and Land Disturbance Activities." The General Permit is available at:

http://www.waterboards.ca.gov/

Inspection

The WPCM must oversee inspections for practices identified in the WPCP:
1. Before a forecasted storm
2. After precipitation that causes site runoff
3. At 24-hour intervals during extended precipitation
4. On a predetermined schedule, a minimum of once a week

The WPCM must oversee daily inspections of:
1. Storage areas for hazardous materials and wastes
2. Hazardous waste disposal and transporting activities
3. Hazardous material delivery and storage activities
4. WPC practices specified under "Construction Site Management" of these Special Provisions

The WPCM must use the Storm Water Site Inspection Report provided in the Preparation Manual.

The Water Pollution Control Manager must prepare BMP status reports that include the following:
1. Location and quantity of installed water pollution control practices
2. Location and quantity of disturbed soil for the active or inactive areas

Within 24 hours of finishing the weekly inspection, the Water Pollution Control Manager must submit:
1. Copy of the completed site inspection report
2. Copy of the BMP status report

Reporting Requirements
If the following occur, notify the Engineer within 6 hours:
1. Discharges into receiving waters or drainage systems causing or potentially causing pollution
2. The job receives a written notice or order from a regulatory agency

No later than 48 hours after the conclusion of a storm event resulting in a discharge, a non-stormwater discharge, or receiving the notice or order, submit:
1. Date, time, location, and nature of the activity, type of discharge and quantity, and the cause of the notice or order
2. Water pollution control practices used before the discharge, or before receiving the notice or order
3. Description of water pollution control practices and corrective actions taken to manage the discharge or cause of the notice

10-1.14B **Construction Site Management:** Contractor shall be responsible for controlling potential sources of water pollution before they come in contact with storm water systems or water courses. The Contractor shall control material pollution and manage waste and non-storm water existing at the construction by implementing effective handling, storage, use, and disposal practices.

Spill Prevention and Control
Contractor shall implement spill and leak prevention procedures when chemicals or hazardous substances are stored. Contractor shall keep material or waste storage areas clean, well organized, and equipped with enough cleanup supplies for the material being stored. Spills of petroleum products; substances listed under CFR Title 40, Parts 110, 117, and 302; and sanitary and septic waste shall be contained as soon as is safe. Contractor shall prevent spills from entering storm water runoff before and during cleanup.

Minor Spills:
Clean up minor spills using the following procedures:
1. Contain the spread of the spill
2. Recover the spilled material by absorption
3. Clean the contaminated area

4. Dispose of the contaminated material promptly and properly

Semi-Significant Spills:
Clean up semi-significant spills immediately by the following procedures:
1. Contain the spread of the spill
2. Recover the spilled material using absorption whenever a spill occurs on a paved surface or an impermeable surface
3. Contain the spill with an earthen dike and dig up the contaminated soil for disposal whenever a spill occurs on soil
4. If the spill occurs during precipitation, cover the spill with plastic or other material to prevent contaminated runoff
5. Dispose of the contaminated material promptly and properly

Significant or Hazardous Spills:
Immediately notify qualified personnel of significant or hazardous spills. Do not let construction personnel attempt to clean up the spill until qualified staff have arrived. Do the following:
1. Notify the Engineer and follow up with a written report
2. Obtain the services of a spills contractor or hazardous material team immediately
3. Notify the local emergency response team by dialing 911 and county officials at the emergency phone numbers kept at the job site
4. Notify the Governor's Office of Emergency Services Warning Center at (805) 852-7550
5. Notify the National Response Center at (800) 424-8802 regarding spills of Federal reportable quantities under CFR Title 40, Parts 110, 119, and 302
6. Notify other agencies as appropriate, including:
   - 6.1. Fire Department
   - 6.2. Public Works Department
   - 6.3. Coast Guard
   - 6.4. Highway Patrol
   - 6.5. County Sheriff Department
   - 6.6. Department of Toxic Substances
   - 6.7. California Division of Oil and Gas
   - 6.8. Cal OSHA
   - 6.9. Regional Water Resources Control Board

Report minor, semi-significant, and significant spills to the WPC Manager. The WPC Manager shall notify the Engineer immediately. The WPC Manager must oversee and enforce proper spill prevention and control measures.

Material Management
Material shall be delivered, used, and stored for this contract in a manner that minimizes or eliminates discharge of material into the air, storm drain systems, or watercourses. Employees trained in emergency spill cleanup procedures shall be present when hazardous materials or chemicals are unloaded. The Contractor shall supply the Material Safety Data Sheets to the

Engineer for material used or stored and shall keep an accurate inventory of material delivered and stored at the construction site.

Stockpile Management
Contractor shall reduce or eliminate potential water pollution from stockpiled material, including soil, paving material and pressure treated wood. Stockpiles shall be located at least 50 feet from drainage inlets and 100 feet from waterways. Active and inactive stockpiles shall be covered with soil stabilization measures, plastic sheeting or geosynthetic fabric and surrounded with a linear sediment barrier.

Solid Waste Management
Contractor shall not allow litter or debris to accumulate anywhere on the construction site, including storm drain grates, trash racks, and ditch lines. The Contractor shall pick up and remove trash and debris from the construction site at least once a week. Trash receptacles shall be provided and used in the Contractor's yard, field trailers, and locations where workers gather for lunch and breaks. Contractor shall furnish enough closed-lid, watertight dumpsters to contain any solid waste generated by work activities.

Hazardous Waste Management
Contractor shall implement hazardous waste management practices when waste is generated on the construction site. The Contractor shall dispose of hazardous waste within 90 days of being generated. Hazardous waste shall be disposed of by a licensed hazardous waste transporter using uniform hazardous waste manifest forms and taken to a Class I Disposal Site. A copy of the manifest shall be provided to the Engineer. Nothing in these special provisions shall relieve the Contractor of the responsibility for compliance with Federal, State, and local laws regarding storage, handling, transportation, and disposal of hazardous wastes.

Concrete Waste Management
The Contractor shall implement practices to prevent the discharge of portland cement concrete, AC, or HMA waste into storm drain systems or watercourses. At a minimum, Contractor shall construct and maintain temporary concrete washout facilities. Portland cement concrete, AC, or HMA waste shall be collected and disposed of where concrete material is used, where AC is demolished and where concrete trucks are cleaned at the construction site.

Sanitary and Septic Waste
Do not bury or discharge wastewater from sanitary or septic systems within County right-of-way. The WPC Manager must inspect sanitary or septic waste storage and monitor disposal procedures at least weekly. Place sanitary facilities at least 50 feet from drainage inlets and 100 feet away from watercourses and flow lines.

Vehicle Equipment Cleaning

Contractor shall limit vehicle and equipment cleaning or washing on the construction site to that necessary to control vehicle tracking or hazardous waste. Vehicles and equipment shall not be cleaned on the construction site with soap, solvents, or steam until the Engineer has been notified. The resulting waste shall be contained and recycled, or disposed of appropriately. The Contractor shall not use diesel to clean vehicles or equipment, and shall minimize the use of solvents.

Vehicle and Equipment Fueling and Maintenance
Contractor shall fuel or perform maintenance on vehicles and equipment off the construction site whenever practical. When fueling or maintenance must be done at the construction site, the Contractor shall designate a site, or sites, and obtain approval from the Engineer before using. The fueling or maintenance site shall be protected from storm water, shall be on level ground, and shall be located at least 50 feet from drainage inlets or 100 feet from watercourses.

Material and Equipment Used Over Water
Place drip pans and absorbent pads under vehicles or equipment used over water. Keep an adequate supply of spill cleanup material with the vehicle or equipment. Do not allow demolished material to enter storm water systems or watercourses. The WPC Manager must inspect demolition sites within 50 feet of storm water systems or watercourses daily.

Temporary Construction Entrance
Contractor shall construct a temporary construction entrance or take whatever means necessary to prevent tracking of mud onto existing roads and shall keep roads free of debris. If sweeping is needed, Contractor shall do so using hand or mechanical methods.

Dewatering
Dewatering shall conform to Section 02140, “Dewatering,” of Section 10-2, “Technical Specifications”, of these Special Provisions. The WPCM shall inspect dewatering activities on a daily basis.

Dust Control
Dust control shall conform to Section 10, “Dust Control,” of the Standard Specifications.

10-1.14C **Payment:** If the Contractor fails to comply with the provisions of this section, "Water Pollution Control", of these Special Provisions or fails to implement water pollution control practices during each estimate period, the District may withhold 25 percent from the progress payment. Withholds for failure to perform water pollution control work are in addition to all other withholds provided for in the contract. The District returns performance-failure withholds in the progress payment following the correction for noncompliance.

The District does not pay for implementation of WPC practices in areas outside the right-of-way specifically provided for in the drawings or in the Special Provisions. The District does not pay for WPC practices installed at construction support facilities.

WPC practices for which there are separate bid items of work are measured and paid for as those bid items of work.

Full compensation for conforming to the provisions of this section, "Water Pollution Control", including Water Pollution Control Program and Construction Site Management shall be considered as included in the contract lump sum price paid for **"TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS"** and no additional compensation will be allowed therefor.

10-1.15 **Temporary Fence – Type ESA:** Temporary ESA fence shall conform to the provisions in Section 01560, "Temporary Fence – Type ESA", of Section 10-2, "Technical Specifications", of these Special Provisions.

The contract unit price paid per linear foot for **"TEMPORARY FENCE – TYPE ESA"** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in supplying and constructing temporary ESA fence, complete in place, including installation, maintenance and removal; backfilling, compacting and repairing holes, depressions and other ground disturbance; and all appurtenant work and materials, as shown on the plans, as specified in these Special Provisions, and as directed by the Engineer.

10-1.16 **Silt Fence:** Silt fence shall conform to the provisions in Section 02378, "Silt Fence", of Section 10-2, "Technical Specifications", of these Special Provisions.

The contract unit price paid per linear foot for **"SILT FENCE"** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in supplying and constructing silt fence, complete in place, including installation, maintenance and removal; backfilling, compacting and repairing holes, depressions and other ground disturbance; and all appurtenant work and materials, as shown on the plans, as specified in these Special Provisions, and as directed by the Engineer.

10-1.17 **Fiber Roll:** Fiber rolls shall conform to the provisions in Section 02379, "Fiber Roll", of Section 10-2, "Technical Specifications", of these Special Provisions.

Contractor shall note that installation of fiber rolls is not shown on the drawings. Fiber rolls shall only be installed if directed by the Engineer to provide erosion control or if required by the Water Pollution Control Program or environmental permit conditions listed in the Environmental Permit

Summary Form. All fiber roll installation shall be approved by the Engineer prior to installation.

The District does not pay for installation of fiber roll outside the right-of-way specifically provided for in the drawings or in the Special Provisions or at construction support facilities.

The contract unit price paid per linear foot for **"FIBER ROLL"** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in supplying and installing fiber roll, complete in place, including installation, maintenance and removal; backfilling, compacting and repairing holes, depressions and other ground disturbance; and all appurtenant work and materials, as specified in these Special Provisions and as directed by the Engineer.

10-1.18 **Erosion Control Blanket:** Erosion Control Blanket shall conform to the provisions in Section 02201, "Erosion Control Blanket", of Section 10-2, "Technical Specifications", of these Special Provisions.

Contractor shall note that installation of erosion control blanket is not shown on the drawings. Erosion control blankets shall only be installed if directed by the Engineer to provide erosion control or if required by the Water Pollution Control Program or environmental permit conditions listed in the Environmental Permit Summary Form. All erosion control blanket installation shall be approved by the Engineer prior to installation.

The District does not pay for installation of fiber roll outside the right-of-way specifically provided for in the drawings or in the Special Provisions or at construction support facilities.

The contract unit price paid per square yard for **"EROSION CONTROL BLANKET"** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in supplying and installing erosion control blanket, complete in place, including installation, maintenance and removal; backfilling, compacting and repairing holes, depressions and other ground disturbance; and all appurtenant work and materials, as specified in these Special Provisions and as directed by the Engineer.

10-1.19 **Clearing and Grubbing:** Clearing and grubbing shall conform to the provisions in Section 02110, "Clearing and Grubbing", of Section 10-2, "Technical Specifications", of these Special Provisions. All removed material shall be disposed of by the Contractor in accordance with Section 7-1.13, "Disposal of Material Outside the Highway Right of Way", of the Standard Specifications.

Contractor shall perform clearing and grubbing to the extent that is necessary to perform all project work, including temporary facilities and permanent

improvements. Contractor shall conduct site visits as necessary to satisfy himself of existing vegetation conditions within the construction site prior to bid.

Contractor shall obtain approval from the Engineer prior to demolition of any man-made structures discovered in the process of clearing and grubbing.

The contract lump sum price paid for **"CLEARING AND GRUBBING"** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in clearing and grubbing within the project extents, including, but not limited to, removal of trees, vegetation, debris, above ground obstructions and objectionables; tree trimming; placement and compaction, and import, if necessary, of engineered fill where grubbing holes extend below excavation and over-excavation limits; and disposal or salvage of all cleared and grubbed materials; and all appurtenant work and materials, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as Directed by the Engineer, and no additional compensation will be allowed therefor.

10-1.20 **Diversion / Dewatering:** Stream diversion and site dewatering shall conform to the provisions in Section 02140, "Dewatering", of Section 10-2, "Technical Specifications", of these Special Provisions.

Contractor's attention is directed to the requirement for submitting a Dewatering Plan. The dewatering details on the drawings are schematic and it is the responsibility of the Contractor to design a plan to dewater the site and divert stream flows around the project site. The Dewatering Plan shall conform to these Special Provisions and shall comply with all measures and conditions identified in the Environmental Summary Form. Contractor shall submit the Dewatering Plan according to the timing requirements in Section 4-1.03, "Submittals", of these Special Provisions.

Contractor's attention is directed to the Environmental Permit Summary Form, which requires the District biologist to capture and relocate steelhead and to continuously monitor placement and removal of stream diversion facilities and initial dewatering of the project site. Contractor shall coordinate dewatering and diversion work to accommodate the work and needs of the District biologist's activities.

The contract lump sum price paid for **"DIVERSION / DEWATERING"** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in dewatering the construction site and temporary excavations and diverting stream flows around the project site 24 hours per day throughout the duration of in-stream construction, including, but not limited to, submittal of a Dewatering Plan; coordination with District biologist; design, construction, operation, maintenance and removal of dewatering and diversion facilities, including, but not limited to, temporary coffer dams, flumes shoring, diversions, filtrations

systems, pumping systems, well points, sediment basin, and sediment and erosion control measures; removal and disposal of sediment and muck; clean up and restoration; and compliance with the Environmental Permit Summary Form; and all appurtenant work and materials, as shown on the plans, as specified in these Special Provisions, and as Directed by the Engineer, and no additional compensation will be allowed therefor.

10-1.21 **Earthwork:** Earthwork shall include all project earthwork activities required to complete project work, including, but not limited to, excavation, over-excavation and fill for both temporary facilities and permanent improvements. Earthwork shall conform to the provisions in Section 02222, "Excavation", and Section 02226, "Engineered Fill Construction", of Section 10-2, "Technical Specifications", of these Special Provisions.

All unused, unsuitable or excess materials resulting from project earthwork shall be removed and disposed of by the Contractor in accordance to Section 7-1.13, "Disposal of Material Outside the Highway Right of Way", of the Standard Specifications.

All dewatering activities required to perform project earthwork activities shall comply with the provisions in Section 02140, "Dewatering", of Section 10-2, "Technical Specifications", of these Special Provisions. Full compensation for earthwork dewatering activities shall be considered as included in the contract lump sum price paid for **"DEWATERING / DIVERSION"** and no additional compensation will be allowed therefor.

Excavations around underground electrical ducts and conduits shall be performed using extreme caution to prevent injury to workmen or damage to electrical ducts or conduits. Similar precautions shall be exercised around gas lines, telephone and television cables.

Contractor shall neatly place excavated materials far enough from excavations to prevent stability problems. Keep the materials shaped so as to cause the least possible interference with drainage or the normal use of adjacent properties, structures or roadways. Materials requiring stockpiling may be stockpiled in locations as shown on the Drawings or as directed by the Engineer.

Full compensation for conforming to the requirements of this section shall be considered as included in the contract items of work involved and no additional compensation will be made therefor.

10-1.21A **Excavation:** Excavation shall consist of the excavation, removal and disposal of all material, regardless of its nature, required to reach the finished grade as shown on the Drawings. Contractor's attention is directed to Section 02222, "Excavation", of Section 10-2, "Technical Specifications", of these Special Provisions for a complete definition of Excavation.

No separate payment will be made for excavation beyond the lines and grades shown on the Drawings or Engineered Fill required to fill such excavation, unless such excavation is directed by the Engineer.

The contract unit price paid per cubic yard for **"EXCAVATION"** shall include full compensation for furnishing all labor, materials, tools, and incidentals and for doing all the work involved in excavation, removal and disposal of all material required to reach finished grade, to the lines and grades shown on the plans, including but not limited to, excavation; stockpiling of suitable native material to be utilized as engineered fill for subsequent items of project work; removal and disposal of unsuitable or excess materials, including hauling and any involved fees; and all appurtenant work and materials, as shown on the plans, as specified in these Special Provisions, and as directed by the Engineer, and no additional compensation shall be made therefor.

The contract unit price paid per cubic yard for **"EXCAVATION"** shall not include any compensation for furnishing any labor, materials, tools, and incidentals and for doing any work involved in Excavation of Unsuitables and Rock Excavation as described in these Special Provisions; over-excavation required for placement of Weir and Sill Boulders, Engineered Stream Bed Material and Log Structures; or excavation required for temporary construction facilities and controls and dewatering facilities under this contract.

"EXCAVATION" is a Final Pay Item as specified in Section 10-1.07, "Final Pay Items", of these Special Provisions.

10-1.21B **Rock Excavation:** Contractor's attention is directed to Section 02222, "Excavation", of Section 10-2, "Technical Specifications", of these Special Provisions for a complete definition of Rock Excavation.

Contractor shall note that the limits or existence of Rock Excavation is not shown on the Drawings. The existence, limits and quantity of Rock Excavation shall be determined by the Engineer in accordance with the definition of Rock Excavation.

Rock Excavation shall only apply to excavation of rock, as defined in the Technical Specifications and as determined by the Engineer, that is needed to reach the lines and grades shown on the Drawings for excavation and over-excavation. It shall not include excavation of rock outside of the lines and grades shown for excavation and over-excavation on the Drawings unless a portion of a single continuous large rock mass or boulder requiring removal extends beyond said lines and grades. In such cases, Contractor shall fill and compact holes created by rock removal with Engineered Fill, to the lines and grades of excavation and over-excavation, in accordance to the provisions of Section 02226, "Engineered Fill", of Section 10-2, "Technical Specifications", of these Special Provisions.

The Engineer may determine that rock located within the limits of excavation or over-excavation, as shown on the Drawings, does not require excavation or removal and may become part of the work. In such cases, the Engineer, at his option, may reduce the quantity of Excavation, Engineered Streambed Material or Weir Boulders paid for under this contract.

The Contractor shall have access to all special equipment required for Rock Excavation and not needed for other contract items of work. At the Contractor's option, such special equipment may be delivered and stored at the project site; however, payment for such special equipment will only be provided for in **"ROCK EXCAVATION"** as described below. If the Engineer determines that Rock Excavation is not necessary for completion of project work, the contract item will be deleted and no payment shall be made for **"ROCK EXCAVATION"**.

The contract unit price paid per cubic yard for **"ROCK EXCAVATION"** shall include full compensation for furnishing all additional labor, materials, tools, and incidentals and for doing all the additional work involved in excavation, removal and disposal of rock within the lines and grades of excavation and over-excavation shown on the plans, including but not limited to, excavation; stockpiling of suitable rock to be utilized for subsequent items of project work; removal and disposal of unsuitable excess rock, including hauling and any involved fees; placement and compaction, and import, if necessary, of engineered fill where rock excavation extends beyond the lines and grades of over-excavation shown on the Drawings; and all appurtenant work and materials, as specified in these Special Provisions, and as directed by the Engineer, and no additional compensation shall be made therefor.

The contract unit price paid per cubic yard for **"ROCK EXCAVATION"** shall <u>only consist of work efforts in excess</u> of those required for the excavation and over-excavation work included in other contract items of work. The quantities required for other contract items of work involving excavation and over-excavation work efforts shall not change as a direct result of payment for **"ROCK EXCAVATION"**.

10-1.21C **<u>Excavation of Unsuitables:</u>** Contractor's attention is directed to Section 02222, "Excavation", of Section 10-2, "Technical Specifications", of these Special Provisions for a complete definition of Excavation of Unsuitables.

Contractor shall note that the limits or existence of Excavation of Unsuitables is <u>not</u> shown on the Drawings. The existence, limits and quantity of Excavation of Unsuitables shall be determined by the Engineer in accordance with the definition of Excavation of Unsuitables.

Excavation of Unsuitables, as defined in the Technical Specifications and as determined by the Engineer, shall only apply to excavation of unsuitables beyond the limits of excavation and over-excavation shown on the Drawings to provide appropriate subgrade conditions for placement of Engineered

Streambed Materials and/or Weir Boulders. It shall not include excavation and disposal of unsuitables needed to reach the lines and grades shown on the Drawings. Such work shall be included in the items of contract work requiring such excavation and over-excavation.

The contract unit price paid per cubic yard for **"EXCAVATION OF UNSUITABLES"** shall include full compensation for furnishing all labor, materials, tools, and incidentals and for doing all the work involved in excavation, removal and disposal of unsuitables beyond the limits of excavation and over-excavation shown on the plans, including but not limited to, excavation; removal and disposal of unsuitable materials, including hauling and any involved fees; placement and compaction, and import, if necessary, of engineered fill to fill holes to the lines and grades of over-excavation shown on the Drawings; and all appurtenant work and materials, as specified in these Special Provisions, and as directed by the Engineer, and no additional compensation shall be made therefor.

10-1.21D **Engineered Fill:** Engineered Fill shall conform to the provisions of Section 02226, "Engineered Fill Construction", of Section 10-2, "Technical Specifications", of these Special Provisions.

Contractor shall note that the limits of Engineered Fill is not shown on the Drawings. Engineered Fill shall be placed and compacted in all areas where Contractor's excavations extend beyond the lines and grades shown on the Drawings and as directed by the Engineer.

Full compensation for conforming to the requirements of this section, including but not limited to importing, stockpiling, placing, moisture conditioning, drying and compacting Engineered Fill shall be considered as included in the contract items of work involved and no additional compensation will be made therefor.

10-1.22 **Boulder Weirs and Sills:** Construction of boulder weirs and sills shall conform to the provisions of Section 02270, "Rock Slope Protection", of Section 10-2, "Technical Specifications", of these Special Provisions. For the purpose of these Special Provisions, boulder sills and boulder weirs shall be interchangeable.

Contractor's attention is directed to the requirement to water-jet weir backing and weir boulders to eliminate voids. Contractor shall water-jet thoroughly, to the satisfaction of the Engineer, to ensure that voids are eliminated to reduce future settlement and loss of material in stream flows. All sediment-laden runoff generated by the jetting operations shall be pumped to a settling tank or similar device to reduce turbidity to acceptable levels before discharging.

Correct placement of weir "crest" boulders is critical to the operation of the facility and shall be placed as directed by the Engineer. Contractor shall be

prepared to reposition individual boulders repeatedly to optimize the final weir boulder configuration.

The work required to construct Weir Boulders shall include over-excavation from the finished grade to the limits of over-excavation shown on the Drawings. No separate payment will be made for over-excavation beyond the limits shown on the Drawings or Engineered Fill required to fill such over-excavation, unless such over-excavation is directed by the Engineer.

The contract unit price paid per cubic yard for **"WEIR BOULDERS"** shall include full compensation for furnishing all labor, materials, tools, and incidentals and for doing all the work involved in constructing boulder weirs and sills, complete in place, including but not limited to, over-excavation from finished grade to the limits of over-excavation shown in the Drawings; stockpiling of suitable native material to be utilized as engineered fill for subsequent items of project work; removal and disposal of unsuitable or excess materials, including hauling and any involved fees; subgrade preparation; supply and installation of rock slope protection fabric; hauling; supply and placement of boulders, including repositioning as needed; supply and placement of weir backing; water-jetting; control and treatment of water generated by water-jetting; and all appurtenant work and materials, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer, and no additional compensation shall be made therefor.

"WEIR BOULDERS" is a Final Pay Item as specified in Section 10-1.07, "Final Pay Items", of these Special Provisions.

10-1.22A **Weir Backing:** Weir backing shall conform to the provisions of Section 02270, "Rock Slope Protection", of Section 10-2, "Technical Specifications", of these Special Provisions.

Full compensation for conforming to the requirements of this section, including but not limited to importing, stockpiling, placing and jetting weir backing shall be considered as included in the contract unit price paid per cubic yard for **"WEIR BOULDERS"** and no additional compensation will be allowed therefor.

10-1.22B **Rock Slope Protection Fabric:** Rock slope protection fabric shall conform to the provisions of Section 02270, "Rock Slope Protection", of Section 10-2, "Technical Specifications", of these Special Provisions and Section 88-1.04, "Rock Slope Protection Fabric", of the Standard Specifications.

Full compensation for conforming to the requirements of this section, including but not limited to supply and installation of rock slope protection fabric shall be considered as included in the contract unit price paid per cubic yard for **"WEIR BOULDERS"** and no additional compensation will be allowed therefor.

10-1.23 **<u>Engineered Streambed Material:</u>** Placement of Engineered Streambed Material shall conform to the provisions of Section 02270, "Rock Slope Protection", of Section 10-2, "Technical Specifications", of these Special Provisions.

Contractor's attention is directed to the requirement to water-jet Engineered Streambed Material to eliminate voids. Contractor shall water-jet thoroughly, to the satisfaction of the Engineer, to ensure that voids are eliminated to reduce future settlement and loss of material in stream flows. All sediment-laden runoff generated by the jetting operations shall be pumped to a settling tank or similar device to reduce turbidity to acceptable levels before discharging.

The work required to place Engineered Streambed Material shall include over-excavation from the finished grade to the limits of over-excavation shown on the Drawings. No separate payment will be made for over-excavation beyond the limits shown on the Drawings or Engineered Fill required to fill such over-excavation, unless such over-excavation is directed by the Engineer.

The contract unit price paid per cubic yard for **"ENGINEERED STREAMBED MATERIAL"** shall include full compensation for furnishing all labor, materials, tools, and incidentals and for doing all the work involved in placing engineered streambed material, complete in place, including but not limited to, over-excavation from finished grade to the limits of over-excavation shown in the Drawings; stockpiling of suitable native material to be utilized as engineered fill for subsequent items of project work; removal and disposal of unsuitable or excess materials, including hauling and any involved fees; subgrade preparation; hauling; supply and placement of engineered streambed material; water-jetting; control and treatment of water generated by water-jetting; installation of fabric wrapped soil pockets; coordination of live stake bundle and native vegetation planting with the District; and all appurtenant work and materials, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer, and no additional compensation shall be made therefor.

"ENGINEERED STREAMBED MATERIAL" is a Final Pay Item as specified in Section 10-1.07, "Final Pay Items", of these Special Provisions.

10-1.23A **<u>Fabric Wrapped Soil Pockets:</u>** Fabric wrapped soil pockets shall conform to the provisions of Section 02270, "Rock Slope Protection", of Section 10-2, "Technical Specifications", of these Special Provisions.

Supply of native vegetation and planting of fabric wrapped soil pockets will be provided by the District. Contractor shall coordinate planting activities with the District.

The work required to install fabric wrapped soil pockets shall include over-excavation from the finished grade to the limits of over-excavation shown on the Drawings. No separate payment will be made for over-excavation beyond the limits shown on the Drawings or Engineered Fill required to fill such over-excavation, unless such over-excavation is directed by the Engineer.

Full compensation for conforming to the requirements of this section, including but not limited to supply and installation of biodegradable erosion control fabric and planting soil, over-excavation, disposal of excess or unsuitable materials, compaction and coordination with the Distrct shall be considered as included in the contract unit price paid per cubic yard for **"ENGINEERED STREAMBED MATERIAL"** and no additional compensation will be allowed therefor.

10-1.23B **Live Stake Bundles:** Live stake bundles shall conform to the provisions of Section 02270, "Rock Slope Protection", of Section 10-2, "Technical Specifications", of these Special Provisions and the Drawings.

Supply and installation of live stake bundles will be provided by the District. Contractor shall coordinate planting activities with the District and shall backfill and water-jet live stake bundles with Engineered Streambed Material after live stake bundles are planted.

Full compensation for conforming to the requirements of this section, including but not limited to, coordinating installation of live stake bundles with the District, backfilling and water-jetting shall be considered as included in the contract unit price paid per cubic yard for **"ENGINEERED STREAMBED MATERIAL"** and no additional compensation will be allowed therefor.

10-1.24 **Log Structures:** Log Structures shall conform to the provisions in Section 02272, "Log Structures", of Section 10-2, "Technical Specifications", of these Special Provisions and the Drawings.

Placement of log structures shall be as directed by the Engineer.

The contract unit price paid per cubic yard for **"LOG STRUCTURES"** shall include full compensation for furnishing all labor, materials, tools, and incidentals and for doing all the work involved in installation of log structures, complete in place, including but not limited to, over-excavation below finished grade; stockpiling of suitable native material to be utilized as engineered fill for subsequent items of project work; removal and disposal of unsuitable or excess materials, including hauling and any involved fees; supply and placement of logs and ballast boulders; rock and log cable connections, including supply and installation of cable, fasteners and epoxy; backfill; and all appurtenant work and materials, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer, and no additional compensation shall be made therefor.

10-1.25 **<u>Erosion Control Seeding:</u>** Erosion Control Seeding shall conform to the provisions in Section 02932, “Erosion Control Seeding”, of Section 10-2, “Technical Specifications”, of these Special Provisions. Contractor shall apply erosion control seeding to all soil areas disturbed by construction activities and not receiving rock treatment.

The contract lump sum price paid for **“EROSION CONTROL SEEDING”** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in seeding all areas disturbed by construction activities, including, but not limited to seed, straw mulch, fertilizer, water, debris removal and breaking up soils too hard to accept seed, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as Directed by the Engineer, and no additional compensation will be allowed therefor.

SECTION 10-2
Technical Specifications

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SECTION 01560
TEMPORARY FENCE – TYPE ESA

1. GENERAL

1.1 Description

A. Work under this section includes furnishing all labor, materials, equipment, and incidentals to install, maintain, and remove Temporary Fence – Type ESA , as shown on the Drawings, as specified, or as otherwise directed by the Engineer.

1.2 Related Sections

1. ***Clearing and Grubbing,*** Section 02110

2. ***Excavation***, Section 02222

1.3 References

A. State of California, Department of Transportation (CALTRANS) State Standard Specifications, May 2006.

1.4 Submittals

A. Submit to the Engineer, for review, the following:

1. Manufacturer's data for proposed fencing fabric.

2. Manufacturer's data or descriptive literature for proposed fence posts.

2. PRODUCTS

2.1 Materials

A. High Visibility Fabric. High visibility fabric shall be machine produced, orange colored mesh manufactured from polypropylene or polyethylene. High visibility fabric may be made of recycled materials. Materials shall not contain biodegradable filler materials that can degrade the physical or chemical characteristics of the finished fabric. High visibility fabric shall be fully stabilized ultraviolet resistant and a minimum of four feet in width with a maximum mesh opening of 2" x 2". High visibility fabric shall be furnished in one continuous width and shall not be spliced to conform to the specified width dimension.

B. Posts. Posts for temporary fence (Type ESA) shall be of one of the following:

1. Wood posts shall be fir or pine, shall have a minimum cross section of 2" x 2", and a minimum length of 5.25 feet. The end of the post to be embedded in the soil shall be pointed. Wood posts shall not be treated with wood preservative.

2. Steel posts shall have a “U,” “T,” “L,” or other cross sectional shape that resists failure from lateral loads. Steel posts shall have a minimum weight of 0.75 pounds per linear foot and a minimum length of 5.25 feet. One end of the steel post shall be pointed and the other end shall have a high visibility colored top.

C. Fasteners. Fasteners for attaching high visibility fabric to the posts shall be as follows:

1. The high visibility fabric shall be attached to wooden posts with commercial quality nails or staples, or as recommended by the manufacturer or supplier.

2. Tie wire or locking plastic fasteners shall be used for attaching the high visibility fabric to steel posts. Maximum spacing of tie wire or fasteners shall be 24 inches along the length of the steel post.

D. Used materials may be installed provided the used materials conform to these Specifications.

3. EXECUTION

3.1 Installation

A. All fence construction activities shall be conducted from the work side of the ESA as shown on the Drawings or as flagged in the field by the Engineer.

B. Posts shall be embedded in the soil a minimum of 16 inches. Post spacing shall be eight feet maximum from center to center and shall at all times support the fence in a vertical position.

C. Temporary fence (Type ESA) shall be constructed prior to clearing and grubbing work, shall enclose the foliage canopy (drip line) of protected plants, and shall not encroach upon visible roots of the plants.

D. Temporary fence (Type ESA) shall be located so that it is clearly visible, as determined by the Engineer.

3.2 Maintenance

A. Temporary fence (Type ESA) that is damaged during the progress of the work shall be repaired or replaced by the Contractor the same day the damage occurs.

3.3 Removal

A. When Type ESA fence is no longer required, as determined by the Engineer, it shall be removed and disposed of in conformance with the provisions in Section 7-1.13, “Disposal of Material Outside the Highway Right of Way,” of the State Specifications, except when reused as provided in this section.

B. Holes caused by the removal of temporary fence (Type ESA) shall be backfilled in conformance with the provisions in Section 15-1.02, “Preservation of Property,” of the State Specifications.

END OF SECTION

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SECTION 02110
CLEARING AND GRUBBING

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SECTION 02110
CLEARING AND GRUBBING

1. GENERAL

1.1 Description

A. The work covered by this section consists of furnishing all labor, equipment, and materials necessary to perform the clearing and grubbing, the removal or disposal of all cleared and grubbed materials, and the filling of all grubbing holes, as specified, as shown on the Drawings, or as directed by the Engineer.

B. Related Sections

1. ***Excavation***, Section 02222

2. ***Engineered Fill***, Section 02226

1.2 References

A. State of California, Department of Transportation (CALTRANS) State Standard Specifications, May 2006.

2. PRODUCTS - Not Used

3. EXECUTION

3.1 Clearing

A. General. All work shall comply with Section 16, Clearing and Grubbing of the Standard Specifications. All trees, stumps, down timber, snags, brush, vegetation, old piling, stone, concrete rubble, abandoned structures, and similar debris shall be cleared within the limits of the construction extents, unless otherwise shown on the Drawings. In areas where grubbing is not required, the clearing operations shall consist of the complete removal of all obstructions above the ground surface.

B. Trees. Certain trees, as designated on the Drawings, shall be removed. Trees shall be felled in such a manner as to avoid damage to trees left standing, to the existing structures and installations, as well as with due regard for the safety of employees and others. Trees located beyond the limits for clearing and grubbing that are not marked for removal, shall be protected from damage, as indicated on the Drawings.

Trees less than 6 inches in diameter are not shown on the Drawings. Contractor shall remove and dispose of all such trees that interfere with the work and cannot be otherwise protected. Tree branches that interfere with the work and cannot be protected shall also be trimmed and disposed of by the Contractor. All work shall be conducted in a manner that preserves existing vegetation to the greatest extent feasible. Engineer shall approve the extent of all tree removal and tree trimming prior to Contractor performing removal or trimming work.

C. Vegetation. Removal of vegetation shall be limited to disturbance limits shown on the Drawings. Existing vegetation shall be protected to the extent feasible. Vegetation to be removed shall consist of all heavy growth of brush and woody vegetation, unless shown otherwise on the Drawings.

D. Debris Removal. Abandoned foundations, rip rap, drainage materials, beaver huts, debris, fallen branches, logs and other unsuitable material and any other debris designated for removal on the Drawings shall be removed and disposed of in accordance with this section. Buried unsuitable debris encountered during excavations shall be removed and disposed of in accordance with Section 02222, Excavation.

3.2 Grubbing

A. General. Grubbing shall consist of the removal of all stumps, roots, buried logs, old piling, old paving, concrete, abandoned utilities, timbers, fencing, beaver huts and other objectionable matter encountered within the specified excavations.

B. Limits. Except as noted on the Drawings, the entire area within the limits of the footprint of improvements shall be thoroughly grubbed.

C. Filling of Holes. All holes caused by grubbing operations, except in borrow areas, shall be excavated with 3 to 1 (horizontal to vertical) side slopes in conformance with Section 02222, Excavation. The excavation shall then be backfilled with compacted embankment material in conformance with Section 02226, Engineered Fill.

3.3 Disposal of Debris

A. Cleared and Grubbed Materials. Except as hereinafter specified, all logs, brush, concrete, asphalt, timbers, slash, and other debris which are the products of the clearing and grubbing operations shall be disposed of. Remove any or all of the products of clearing and grubbing operations from the site and dispose of the material in accordance with Section 7-1.13, "Disposal of Material Outside the Highway Right of Way", of the State Standard Specifications."

END OF SECTION

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SECTION 02140
DEWATERING

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SECTION 02140
DEWATERING

1. GENERAL

1.1 Description

A. Furnish all labor, materials, equipment, and incidentals necessary to design, construct, operate, maintain, and remove all cofferdams, flumes shoring, diversions, filtration systems and/or other measures, including pumping, to dewater the construction site and temporary excavations and to divert streamflow and other surface waters through or around the project area 24 hours a day during the entire field construction period, as shown on the Drawings, as specified, or as directed by the Engineer.

B. Dewatering details on the Drawings are schematic. The design and implementation of the Dewatering Plan is the sole responsibility of the Contractor.

C. Comply with all project permit conditions.

D. The District will provide fish removal by a qualified fisheries biologist prior to and during Dewatering. The Contractor is responsible for coordinating with the District for fish removal.

1.2 Related Sections

1. ***Excavation***, Section 02222

2. ***Rock Slope Protection***, Section 02270

1.3 Submittals

A. Submit to the Engineer for review and approval, the following:

1. A Dewatering Plan showing layout and listing materials, pipe sizing and coffer dam height calculations, method of work, equipment to be used, methods for disposal of pumped water, provisions to prevent scour and erosion, sediment control measures and the proposed schedule. Approval of the Engineer shall be required before the Contractor proceeds with water control measures.

2. Product data for:
   - pumps
   - silt control filter fabric
   - washed rock
   - impervious liners
   - cofferdam material
   - other materials used in dewatering

1.4 Quality Assurance

A. Comply with all applicable permits and regulations,

B. Comply with the Erosion Control Plan in the Drawings and the Water Pollution Control Plan, in accordance with Section 10-1, “General”.

C. Notify Engineer 48 hours in advance of installation of temporary cofferdam(s) or diversion.

D. Notify Engineer 48 hours in advance of removal of temporary cofferdam(s) or diversion.

2. PRODUCTS

2.1 Materials

A. General. The Contractor shall be responsible for sizing and design of temporary cofferdams, well points, pumps, drains, pipes and other diversion and dewatering facilities. Comply with Drawings and regulatory requirements.

B. Imported Rock. Use only clean washed rock. Other materials, if used, shall be removed from river channel when dewatering work is complete.

C. Dewatering Facilities. Provide and operate dewatering facilities of suitable size and capacity. The use of equipment shall be consistent with the manufacturer’s recommendations.

D. Silt Fence. Comply with Section 02378, Silt Fence.

3. EXECUTION

3.1 General

A. Contractor is solely responsible for the design, construction, and maintenance and monitoring of the dewatering facilities. Comply with the Drawings, Specifications, and applicable permit conditions.

3.2 Sediment Control

A. General. Comply with all applicable permits.

B. Materials. Earthen materials shall not be used within the flowing channel Arroyo Grande Creek, with the exception of clean, washed rock.

C. Removal of Surface and Seepage/Groundwater. Discharge of water from the dewatered construction site, either by gravity or pumping, shall be performed in a manner to prevent excessive turbidity from entering Arroyo Grande Creek and to prevent scour and erosion outside of the construction site. Pumped water should be prefiltered with sand/gravel pack around sumps for subsurface flows and a silt fence or hay bales around

pumps for surface flow. Pumped water shall be discharged onto adjacent gravel bars or floodplains, isolated local depressions, or temporary sediment basins. Where water to be discharged into the river will create excessive turbidity, the water shall be routed through a sediment interceptor, filter, or other facilities to remove sediment from water.

D. Isolation of Construction Area. Place silt fences, hay bale barriers, or cofferdams between construction area and flowing river channel, at all locations.

E. Install a Temporary Sediment Basin as shown on the Drawings. The Temporary Sediment Basin shall be used to filter pumped water and/or to capture turbid runoff from jetting operations. All accumulated sediment shall be removed from the Temporary Sediment Basin when the one-day rain probability equals or exceeds 30 percent as determined from the National Weather Service Forecast Office: www.wrh.noaa.gov. At the completion of construction and all jetting operations, the Temporary Sediment Basin shall be removed per the notes on the Drawings.

3.3 Hazardous Material Control

A. General. Comply with the approved Water Pollution Control Plan (WPCP) in accordance with Section 10-1, "General".

B. Equipment and Lubricants. Steam-clean all equipment prior to its use. Inspect all equipment for cleanliness and fluid leaks prior to use and monitor during its use. Maintain equipment as required. Equipment refueling shall only take place in a designated, contained area.

C. Isolation of Construction Area. Equipment shall not be permitted to perform work within flowing water, outside of cofferdams.

D. Spills. Maintain a supply of oil spill booms, sorbent pads, and other supplies to contain and clean spills. Comply with approved WPCP, should spills occur.

3.4 Cofferdams

A. General. The Contractor is solely responsible for the design, construction, maintenance, and monitoring of cofferdams, dikes and other isolation facilities. Cofferdams with an exposed height greater than 10 feet shall be designed by a Professional Engineer registered in the State of California, based on available soil data.

B. Configuration. Cofferdam alignments, as shown on the Drawings, reflect the maximum allowable encroachment into the channel. Construct cofferdam alignments as shown on the Drawings, unless otherwise approved by Engineer. Provide cofferdams high enough to account for water surface fluctuations.

C. Secondary Dikes/Seepage Control. Secondary dikes within the isolated construction area can be used to control seepage and groundwater around excavations, provided all dike materials are removed from the exposed channel upon completion, prior to re-watering the work area.

3.5 Flow Bypass

A. Capacity. Bypass water around construction site using a cofferdam and bypass pipe as shown on the Drawings or similar facility, as approved by the Engineer. The bypass system shall be capable of passing 11 cubic feet per second, with a minimum of 12 inches of freeboard between the top of pipe and top of dam. Bypass pipes shall have a minimum diameter of 12 inches to minimize the likelihood of clogging by debris. Bypass pipes shall maintain a minimum flow depth of 6 inches throughout the length of pipe, as required by project permits.

B. Storm Events. During the designated period for instream work, the Contractor shall be solely responsible for the integrity of the dewatering system. If rain is predicted, the Contractor shall perform flood fighting activities as directed by the Engineer and regulatory agencies. The District will pay for such flood fighting work, and for repair of flooding damage due to flows in excess of 11 cfs, provided such work was performed under direction of the Engineer and responsible agencies, and excess flows occur prior to the end of the designated period for instream work (October 31st).

C. Unless otherwise specified, a diversion must discharge into the same natural drainage way in which its headworks are located.

D. If pumping is proposed as the primary means of diversion, redundancy shall be provided (backup pump(s) and power source) to the satisfaction of the Engineer.

3.6 Dewatering

A. General. Remove water from construction area using pumping, well points, drains, or other approved methods. Discharge of water shall comply with the Specifications and permit conditions of approval. Construction water shall be segregated from seepage water and routed through sediment interceptors or other facilities to remove contaminants and sediment. Excavated slopes in the saturated soils may need to be retained, tied back, or otherwise stabilized.

B. Well Points. Well points shall be designed to preclude the loss of fine soil by sand/gravel packing or other suitable means.

C. Pumping Facilities. Pumps and discharge piping shall be suitable for the type of service provided and shall be a sufficient size and capacity to satisfactorily dewater work areas. Engines shall be muffled to avoid excess noise and pump intakes shall be fitted with screens as required.

D. Power Supply. Contractor shall consider the availability and reliability of power sources for dewatering operation in dewatering system design, and make provisions for temporary or backup power supply as deemed necessary.

E. Groundwater. Dewatering shall maintain water surfaces below the base of temporary excavations or trenches, to allow for visual inspection of the work, if requested by the Engineer. Lower groundwater tables within excavations for structures to a minimum of two (2) feet below foundations or as otherwise required to establish a firm, stable

foundation. Control groundwater within excavation until completion of backfill operations.

3.7 Water Levels During the Construction Period

A. The District Flood Control and Water Conservation District Zone 3 operates and maintains Lopez Reservoir. Releases from the dam at Lopez Reservoir enter Arroyo Grande Creek upstream of the project area. No significant tributaries enter the creek between the dam and the project area. During the dry season release rates at the dam are approximately equivalent to the flow rate at the project site. Summer release rates range between 3 - 7 MGD (4.7 - 10.9 cfs). For current release information contact Doug Bird, Hydraulic Operation Administrator 805-781-5116.

3.8 Cleanup

A. Prior to removal of dewatering the facilities, thoroughly cleanup area to remove debris and contaminated materials. Remove fine sediments and restore disturbed area. Clean, round, river run gravels or cobbles, if used in cofferdam construction, may be spread in the creek channel in lieu of removal, provided grading will not interfere with facility operation.

3.9 Removal of Dewatering Facilities

A. Prior to removal of dewatering facilities, complete the following activities:

1. Complete any required tests and inspections.

2. Thoroughly cleanup work site.

3. Perform final walkthrough with Engineer.

B. Prior to removal of cofferdams, equalize the water surface levels on both sides of the dams.

END OF SECTION

SECTION 02201
EROSION CONTROL BLANKET

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SECTION 02201
EROSION CONTROL BLANKET

1. GENERAL

1.1 Description

A. Work under this section includes furnishing all labor, materials, equipment, and incidentals to install and maintain Erosion Control Blanket to protect newly constructed or excavated and seeded soil slopes, as shown on the Drawings, as specified, or as otherwise directed by the Engineer.

1.2 Related Sections

1. Excavation, Section 02222

2. Fiber Rolls, Section 02379

1.3 References

A. American Society for Testing and Materials (ASTM):

1. D 570 - Standard Test Methods for Water Absorption of Plastics.
2. D 5199 - Standard Test Method for Measuring Nominal Thickness of Geotextiles and Geomembranes.
3. D 1907 -Test Method for Yarn Number by Skein Method.
4. D 1388 – Test Method for Stiffness of Fabrics
5. D 2256 - Test Method for Breaking Strength and Elongation of Yarn by Single Strand Method.
6. D 3786 - Standard Test Method for Hydraulic Bursting Strength of Knitted Goods and Nonwoven Fabrics.
7. D 4354 - Practice for Sampling of Geosynthetics for Testing.
8. D 4355 - Test Method for Deterioration of Geotextiles from Exposure to Ultraviolet Light and Water (Xenon-Arc Type Apparatus).
9. D 4439 - Terminology for Geotextiles.
10. D 4595 - Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method.
11. D 4632 - Test Method for Grab Breaking Load and Elongation of Geotextiles.
12. D 4759 - Practice for Determining the Specification Conformance of Geosynthetics.
13. D 4873 - Guide for Identification, Storage, and Handling of Geotextiles.
14. D 5035 - Standard Test Method for Breaking Force and Elongation of Textile Fabrics (Strip Force).
15. D 5261 - Test Method for Measuring Mass Per Unit Area of Geotextiles.
16. Federal Test Method of America (FTMA) CCC-5-191B - Smolder Resistance of Textile Materials.
17. Geosynthetic Accreditation Institute (GAI) - Laboratory Accreditation Program (LAP).

18. International Standards Organization (ISO) 9002 - Quality System Certification.
19. Light Projection Analysis - Lumited Test Method for Measuring Light Projection through Fabric.

1.4 Submittals

A. Submit to the Engineer, for review, the following:

Manufacturer's Data and Certification's:

1. The Contractor shall provide the Engineer a certificate stating the name of the Erosion Control Blanket manufacturer, product name, style, chemical compositions of filaments or yarns and other pertinent information to fully describe the geotextile.

2. The Manufacturer is responsible for establishing and maintaining a quality control program to assure compliance with the requirements of the Specification. Documentation describing the quality control program shall be made available upon request.

3. The manufacturer's certificate shall state that the furnished products meet requirements of the Specification as evaluated under the manufacturer's quality control program. The certificate shall be attested to by a person having legal authority to bind the Manufacturer.

4. Independent Performance Test Results shall be provided upon request.

1.5 Delivery, Storage, and Handling

A. Erosion Control Blanket labeling, shipment and storage shall follow ASTM D 4873.

B. Product labels shall clearly show the manufacturer or supplier name, style name, and roll number.

C. Each shipping document shall include a notation certifying that the material is in accordance with the manufacturer's certificate.

D. Each Erosion Control Blanket roll shall be wrapped with a material that will protect the geotextile from damage due to shipment, water, sunlight, and contaminants.

E. The protective wrapping shall be maintained during periods of shipment and storage.

F. During storage, Erosion Control Blanket rolls shall be elevated off the ground and adequately covered to protect them from the following: Site construction damage, extended exposure to ultraviolet (UV) radiation, precipitation, chemicals that are strong acids or strong bases, flames, sparks, temperatures in excess of 71 deg C (160 deg F)m and any other environmental condition that might damage the Erosion Control Blanket.

1.6 Quality Assurance

A. Erosion Control Blanket shall be subject to sampling and testing to verify conformance with this Specification. Sampling for testing shall be in accordance with ASTM D 4354.

B. Acceptance shall be in accordance with ASTM D 4759 based on testing of either conformance samples obtained using Procedure A of ASTM D 4354, or based on manufacturer's certifications and testing of quality control samples obtained using Procedure B of ASTM D 4354.

C. Sewn Seams (if required):

1. For seams that are to be sewn in the field, the Contractor shall provide at least a 2 meter (six-foot) length of sewn seam for sampling by the Engineer before the geotextile is installed.

2. For seams that are sewn in the factory, the Engineer shall obtain samples of the factory seams at random from a roll of geotextile that is to be used on the project.

3. If seams are to be sewn in both directions, samples of seams from both directions shall be provided.

4. For seams that are field sewn, the seams sewn for sampling shall be sewn using the same equipment and procedures as will be used for the production seams.

5. The seam assembly description shall be submitted by the Contractor along with the sample of the seam. The description shall include the seam type, sewing thread, and stitch density.

2. PRODUCTS

2.1 Erosion Control Blanket

A. Fabric. Erosion Control Blanket shall be North American Green C125BN, or approved equal, meeting the following Specifications:

B. The Erosion Control Blanket shall meet requirements established by the Erosion Control Technology Council (ECTC) Specification and the U.S. Department of Transportation, Federal Highway Administration's (FHWA) Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-03 2003 Section 713.17 as a Type 4. Long-term Erosion Control Blanket.

C. Erosion Control Blanket shall be a long-term erosion control blanket, constructed of 100% biodegradable materials containing a 100% coconut fiber matrix, with a functional longevity of up to 24 months. The coconut fiber shall be evenly distributed over the entire area of the blanket. The blanket shall be covered on the top and bottom with 100% biodegradable natural organic fiber netting woven into an approximate 0.50 x 1.00 inch (1.27 x 2.54 cm) mesh. The blanket shall be sewn together with biodegradable thread on 1.50 inch (3.81 cm) centers.

Property	Test Method	Typical
Thickness	ASTM D5199/ECTC	0.26 in (6.60 mm)
Resiliency	ECTC Guidelines	85%
Mass per Unit Area	ASTM D6475	8.83 oz/yd² (300 g/m²)
Water Absorption	ASTM D1117/ECTC	155%
Swell	ECTC Guidelines	40%
Stiffness/Flexibility	ASTM D1388/ECTC	0.11 oz-in (1,218 mg-cm)
Light Penetration	ECTC Guidelines	16.40%
Smolder Resistance	ECTC Guidelines	Yes**
MD Tensile Strength	ASTM D5035	342.00 lbs/ft (4.98 kN/m)
MD Elongation	ASTM D5035	7.60%
TD Tensile Strength	ASTM D5035	211.00 lbs/ft (3.08 kN/m)
TD Elongation	ASTM D5035	11.10%

**Material is smolder resistant according to specified test
MD – Machine Direction
TD – Transverse Direction

2.2 Stakes

A. Stakes shall be shaped hardwood pins designed to safely and effectively secure the slope stabilization fabric. The wood stake must exhibit ample rigidity to enable being driven into hard ground, with sufficient flexibility to resist breakage. The wood stake shall be the North American Green Eco-Stake or approved equal, with the following dimensions:

Leg Length:	11.00 in
Head Width:	1.25 in.
Head Thickness:	0.40 in.
Leg Width:	0.60 in. (tapered to a point)
Leg Thickness	0.40 in.
Total Length:	12.0 in

3. EXECUTION

3.1 Preparation

A. Grade and compact areas to be treated with Erosion Control Blanket and compacted as indicated or as directed by Engineer.

B. Remove large rocks, soil clods, vegetation, and other sharp objects that could keep Erosion Control Blanket from intimate contact with subgrade.

C. Prepare seedbed by loosening 50 to 75 mm (two to three inches) of soil above final grade.

D. Select and apply soil amendments and fertilizer (if specified), and seed in accordance with Section 02932, Seeding to scarified surface prior to installation of Erosion Control Blanket.

E. Construct 150 x 150 mm (six-inch x 6-inch) anchor trench at top of slope.

3.2 Installation

A. Install Erosion Control Blanket at elevation and alignment indicated.

B. Extend Erosion Control Blanket two to three feet over crest of slope, secure into a six-inch x six-inch trench with a row of staples/stakes approximately 12 inches apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to compacted soil and fold remaining 12 inch portion of Erosion Control Blanket's back over seed and compacted soil. Secure Erosion Control Blanket over compacted soil with a row of staples/stakes spaced approximately 12 inches apart across the width of the Erosion Control Blanket. The entire perimeter of the Erosion Control Blanket shall be keyed into a trench, as described above.

C. Unroll Erosion Control Blanket downslope. Consecutive rolls spliced down the slope must be placed end over end (shingle style) with an approximate three inches overlap. Staple through overlapped area, approximately 12 inches apart across entire Erosion Control Blanket's width.

D. Secure Erosion Control Blanket to slope with ground anchoring devices in accordance with the manufacturer's recommendations for the application (slope or channel).

E. Where Erosion Control Blanket abuts against rock slope protection or other rock placements, the Erosion Control Blanket shall be placed under the first course of adjacent rock and also staked per section 3.2d.

F. Alternate installation methods must be approved by Engineer prior to execution.

3.3 Inspection and Maintenance

A. The Contractor shall inspect Erosion Control Blanket immediately after each rainfall, and at least daily during prolonged rainfall. Any deficiencies shall be immediately corrected by the Contractor.

B. The Contractor shall also make a daily review of the location of Erosion Control Blanket in areas where construction activities have altered the natural contour and drainage runoff to ensure that the Erosion Control Blanket is properly located for effectiveness. Where deficiencies exist as determined by the Engineer, repairs or replacement shall be performed as directed by the Engineer.

C. Damaged or otherwise ineffective Erosion Control Blanket shall be repaired or replaced promptly.

END OF SECTION

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SECTION 02222
EXCAVATION

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SECTION 02222
EXCAVATION

1. GENERAL

1.1 Description

A. The work covered by this section consists of furnishing all labor, equipment, materials, and performing all operations necessary to complete Stripping and Excavation, as specified, as shown on the Drawings, or as directed by the Engineer. Work includes, but is not limited to the following:

1. Excavation for removal of unsuitable material.
2. Channel Excavation.
3. Construction Surveying.
4. Other miscellaneous excavation incidental to the construction of the improvements.
5. Over-excavation for placement of Engineered Streambed Material and Weir Boulders.

B. Related Sections

1. ***Clearing and Grubbing***, Section 02110
2. ***Engineered Fill***, Section 02226

1.2 References

A. State of California, Department of Transportation (CALTRANS) State Standard Specifications, May 2006.

B. Structural Analysis:

"Structural Analysis, Rodriguez Bridge Riffle Rock Structure Project"
Swanson Design Engineering
669 Pacific Street, Suite G
San Luis Obispo, CA 93401
Job # 110202
805-440-8624
Dated: March 30, 2011

C. Surveys. Refer to Section 10-1, "General"

1.3 Quality Assurance

A. Comply with all applicable permits, regulations and recommendations of the "Structural Analysis, Rodriguez Bridge Riffle Rock Structure Project" by Swanson Design Engineering.

2. PRODUCTS

2.1 Materials

A. Section not used.

3. EXECUTION

3.1 General

A. The Contractor shall protect existing utilities and bridge foundation piers in performing any excavation work.

B. The Contractor shall comply with all permit conditions in performing any excavation work.

C. Excess or unsuitable materials shall be disposed off site, at locations to be arranged and paid for by the Contractor.

3.2 General Excavation

A. General. Excavations shall extend into firm, undisturbed native soils. Excavation shall consist of removal of material for embankment foundation preparation, mass excavation and finish grading of the channel and slope improvements, and other miscellaneous excavations to the lines and grades shown on the Drawings, or as directed by the Engineer. In the event that organic materials, yielding sub-grade (pumping) or other deleterious materials are encountered during foundation excavations, they shall be removed as directed by the Engineer.

B. Control of Water. Water control shall be performed in accordance with project permit conditions and Section 02140, Dewatering. When water is encountered, either ground water or surface runoff, the Contractor shall furnish, install, maintain, and operate all necessary machinery and equipment required to keep the excavation reasonably free from water, as approved by the Engineer, until the placement of backfill material has been completed, inspected, and approved, and all danger of flotation and other damage is removed. Water pumped from the excavation shall be disposed of in such manner as will not cause injury to public or private property, or constitute a nuisance or menace to the public, and the disposal method shall be subject to the approval of the Engineer. Water shall be controlled until work is complete.

C. Excess Excavation. Care shall be exercised by the Contractor not to excavate below the grades shown on the Drawings, except as specified, and as directed by the Engineer. All excavations in excess of the grades shown on the Drawings which are not directed by the Engineer shall be backfilled with compacted embankment at the Contractor's expense, per Section 02226, Engineered Fill.

D. Temporary Excavations. With exposure and drying, on-site soils may experience progressive sloughing if excavated near vertical and left un-shored during construction. Engineer suggests that the soils on-site should be considered Type C when applying OSHA regulations.

E. Tolerances. The excavation tolerance shall typically be +0.1 feet to -0.2 feet from the grades shown on the Drawings, except within the low flow channel, where excavation tolerance shall be +0.1 feet to -0.1 feet from the elevations shown on the Drawings.

3.3 Excavation.

A. Excavation shall consist of the excavation and disposal of all material, regardless of its nature, which is not otherwise classified and paid for under Excavation of Unsuitables and Rock Excavation as described below. Excavation includes excavation required to reach finished grade. Over-excavation for the placement of materials (e.g. Engineered Streambed Material, Weir Boulders, Log Structures) or the removal of unsuitables, as described below under Excavation of Unsuitables, is not included in Excavation.

3.4 Excavation of Unsuitables.

A. Areas of unsuitable in-place soils, as determined by the Engineer, may also be encountered. The Contractor shall anticipate having to over-excavate these areas as directed by the Engineer and dispose of materials. The actual locations of these excavations will be determined in the field by the Engineer. The side slopes of the excavations shall be no steeper than 1 to 1 (horizontal to vertical). The over-excavations shall be backfilled with embankment materials in accordance with Section 02226, Engineered Fill.

Material shall not be classified as unsuitable solely based on moisture content. Material within the limits of Excavation, as described above under Excavation, or within the limits of over-excavation for the placement of materials (e.g. Engineered Streambed Material, Weir Boulders, Log Structures) as shown on the Drawings and described in these Specifications shall not be classified as unsuitable.

B. Disposition of Unsuitable Materials. The excavated materials that are considered unsuitable based solely on moisture content shall be processed as necessary to meet specification requirements for suitability and used as embankment material. Materials which are unsuitable based on organic content will be ordered wasted and shall be disposed of off-site in accordance to Section 7-1.13, “Disposal of Material Outside the Highway Right of Way”, of the State Standard Specifications.

3.5 Rock Excavation.

A. Rock excavation consists of the removal of hard igneous, metamorphic, and/or sedimentary rock which cannot be excavated without blasting or by means of a track mounted power excavator, equivalent to Caterpillar Model No. 215C LC, and rated at not less than 115 HP flywheel power and 32,000 pound drawbar pull and equipped with a short stick and a 42 inch wide, short tip radius rock bucket rated at 0.81 cubic yard (heaped) capacity, and all

boulders or other detached stones each having a volume of 5 cubic yards or more. When rock is encountered within the limits of the excavation, immediately notify the District and Engineer and do not proceed further until instructions are received and measurements made for the purpose of establishing the volume of rock excavation. Contractor shall note that blasting is not approved for this project.

END OF SECTION

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SECTION 02226
ENGINEERED FILL CONSTRUCTION

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SECTION 02226
ENGINEERED FILL CONSTRUCTION

1. GENERAL

1.1 Description

A. The work covered by this section consists of furnishing all plant, labor, and materials, and performing all operations necessary for the construction of Engineered fills, including surveying, foundation preparation, furnishing and hauling of materials from a borrow source, placement of Engineered Fill materials, construction of temporary access roads, and other incidental earthwork as may be necessary to complete the Engineered Fills, as shown on the Drawings, as specified, or as directed by the Engineer.

B. All grading shall comply with Section 19 of the Standard Specifications. It shall be the responsibility of the Contractor to visit the site and make his own interpretations with regard to materials, methods and equipment necessary to perform the work required for this project.

1.2 Related Sections

1. ***Excavation***, Section 02222

2. ***Clearing and Grubbing***, Section 02110

1.3 References

A. American Society for Testing of Materials (ASTM) Standards:

D1556	Test Method for Density of Soil in Place by the Sand Cone Method
D1557	Test Method for Moisture-Density Relations of Soils and Soil-Aggregate Moistures Using 10 lb (4.54 kg) Rammer and 18-inch (457 mm) Drop
D2974	Test Method for the Organic Content of Soils
D2922	Density of Soil and Soil-Aggregate In-Place by Nuclear Methods (Shallow Depth)
D3017	Test Method for Moisture Content of Soil and Soil-Aggregate in Place by Nuclear Methods (Shall Depth)
D4318	Test Method for the Liquid Limit and Plastic Limit of Soils
D422C	Particle-Size Analysis of Soils

B. State of California, Department of Transportation (CALTRANS)
State Standard Specifications, May 2006.

2. PRODUCTS

2.1 Materials

A. Engineered Fill Materials. To the extent they are needed, all suitable materials from the specified excavations shall be used in the construction of required temporary and permanent earthfill. The suitability of materials for specific purposes will be determined by the Engineer, in conformance with these specifications. Materials used for fill should consist of predominantly granular soil, free of perishable material and rocks or lumps larger than six inches in greatest dimension, with not more than 15 percent larger than 2.5 inches, with a plasticity index of less than 15, a liquid limit less than 35, and not more than 15 percent passing the #200 sieve. Only those soils having an organic content of less than 3 percent by volume may be used as Engineered Fill material. Fill materials shall contain no sod, brush, roots, or other perishable or unsuitable material. All proposed fill material shall be approved by the Engineer prior to use.

B. All surplus or unsuitable excavated materials will be designated as waste and shall be disposed in accordance with Section 02222, Excavation.

C. If a disagreement between the Contractor and the Engineer occurs over the suitability of materials, the Contractor shall perform laboratory testing to demonstrate compliance with the specifications. The failure of the Contractor to perform the testing shall not relieve the Contractor from the obligation to provide suitable materials.

3. EXECUTION

3.1 Engineered Fill Construction

A. General. Compacted Engineered Fill in Engineered Fills shall be placed in the dry and compacted as specified.

B. Subgrade Preparation. The subgrade surfaces shall be graded to remove surface irregularities and shall be scarified parallel to the axis of the fill and loosened to a minimum depth of 2 inches. The moisture content of the loosened material shall be controlled as specified for the Engineered Fill, and the surface materials of the subgrade shall be compacted and bonded with the first layer of Engineered Fill. Earth abutment surfaces shall be free of loose, uncompacted earth in excess of two inches in depth normal to the slope and shall be at such a moisture content that the Engineered Fill can be compacted against them to ensure a good bond between the fill and the abutments. Subgrade and abutment surfaces shall not be steeper than 1 horizontal to 1 vertical. The sites of the borrow area shall be stripped to sufficient depth to remove all vegetation, roots, brush, sod and other objectionable material. Clearing and disposal methods shall be in accordance with applicable state and county laws with due regards to the safety of persons and property. Fill shall not be placed until the required excavation and subgrade preparation has been completed. Fill shall not be placed upon a frozen surface, nor shall snow, ice, or frozen material be incorporated in the fill.

C. Horizontal Layer Construction. The compacted Engineered Fill shall be constructed to a sufficient section so as to achieve the required compaction throughout the finished section. Materials to be compacted shall be placed or spread in layers not more than eight (8) inches in thickness prior to compaction. Materials excavated to form keyways and

overexcavations, and suitable for use as Engineered Fill, shall be blended uniformly with other excavated soils or disposed of as directed by the Engineer. All fill placed on slopes steeper than 5 horizontal to 1 vertical shall be keyed and benched. If the surface of any layer becomes too hard and smooth for proper bond with the succeeding layer, it shall be scarified parallel to the axis of the fill to a depth of not less than 2 inches before the next layer is placed. Fill placed around structures will be brought up at approximately uniform height on all sides of the structure.

D. Compaction. When, in the opinion of the Engineer, the surface of any compacted layer is too smooth to bond properly with the succeeding layer, it shall be scarified to a depth of 6 inches before the succeeding layer is placed thereon. The degree of compaction required is expressed as a percentage of the maximum dry density, based on laboratory test procedure, ASTM D 1557. The Engineered Fill shall be compacted to a minimum of 90% of the maximum dry density. Construction equipment shall be operated over each layer of fill to ensure that the required compaction is obtained. Special equipment shall be used if needed to obtain the required compaction. Heavy compaction equipment shall not be operated within 2 feet of any structure. Fill adjacent to structures, pipe, conduits, and anti-seep collars shall be compacted to a density equivalent to that of the surrounding fill by means of hand tampers or plate vibrators. Hand directed tampers or compactors shall be used on areas not accessible to heavy compaction equipment, fills compacted in this manner shall be placed in layers not greater than 4 inches in thickness before compaction, and shall meet the same density requirement as for the adjacent area.

E. Moisture Control. The moisture content required is expressed as a percentage, based on laboratory test procedure ASTM D 1557. The moisture shall be uniformly distributed throughout the layer prior to compaction and shall be between 1 and 3% above the optimum moisture content. If the material is not within the required moisture content, the Contractor will be required to moisture condition the soil. The moisture conditioning of fill materials shall be performed prior to placement in the section. The final minor moisture conditioning may be made on the fill, as required. Harrowing, or other approved methods will be required to work the moisture into the material until a uniform distribution of moisture is obtained. Water applied on a layer of fill shall be accurately controlled in amount and distribution so that free water will not appear on the surface during or subsequent to rolling. If the material is too wet for proper compaction or soft and yielding sub-grade is experienced (pumping), the Contractor will be required to aerate the material to a moisture content within the desired limits prior to compaction. If the top surface of the preceding layer of compacted fill or a subgrade or abutment surface in the zone of contact with the fill becomes too dry to permit suitable bond, it shall either be removed or scarified and moistened to an acceptable moisture content prior to placement of the next layer of fill.

F. Dressing. Engineered Fill slopes shall be dressed by over-building and cutting back to the required grade. The Contractor may compact the shoulder of each lift during the placement of fill materials to assist in the subsequent dressing of the slopes.

3.2 Cross Sections and Zoning of Materials

A. Zoning of Materials. The new Engineered Fill materials shall be homogeneous. The Engineered Fill shall be free of pockets, lenses, streaks, layers, etc. of different materials.

3.3 Finish

A. Finish. After the placement of the engineered fills and spoils, the sides and top shall be dressed by final passage of compaction equipment or by dragging to give a smooth surface. The surface area shall be graded to provide surface drainage to flow to desired locations.

3.4 Roads and Ramps

A. Roads. At locations where access roads to fields or buildings are destroyed because of the work required under this contract, the Contractor shall provide temporary roads, if directed by the Engineer, to give access to fields and buildings during the construction period. Such facilities shall be removed to the extent required by the Engineer.

B. Temporary ramps to be constructed for the Contractor's convenience need not comply with these foundation preparation and Engineered Fill construction requirements. Unless otherwise shown on the Drawings or directed by the Engineer, temporary ramps shall be removed prior to completion of the work.

3.5 Slides

A. In the event of the sliding of any part of the Engineered Fill during its construction, or during the one year period after acceptance, the Contractor shall, upon written order of the Engineer, cut out and remove the slide and then rebuild that portion of the Engineered Fill.

3.6 Temporary Haul Roads and Temporary Channel Crossings

A. Temporary haul roads shall be constructed as required to transport materials from borrow source or excavation to Engineered Fill site.

3.7 Special Measures

A. Measures and construction methods shall be incorporated as needed and practical that enhances fish and wildlife values. Special attention shall be given to protecting visual resources and maintaining key shade, food, and den trees.

END OF SECTION

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SECTION 02270
ROCK SLOPE PROTECTION

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SECTION 02270
ROCK SLOPE PROTECTION

1. GENERAL

1.1 Description

A. Work within this section shall include furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in placing riprap stone protection, Weir Boulders, Engineered Streambed Material, backing layers, backfill and geotextile fabric where shown on the Drawings, as specified, or as directed by the Engineer. Stone protection, rock slope protection (RSP) and riprap are interchangeable in these Specifications and Drawings.

B. Related sections:

1. **Dewatering**; Section 02140

2. **Excavation**, Section 02222

3. **Engineered Fill,** Section 02226

1.2 Submittals

A. Submit to the Engineer, for review, the following:

1. Manufacturer's product data and installation instructions for the geotextile fabric.

2. Certified weights of the rock delivered to the site.

3. Quarry source and statement of materials and gradation tests on the rock source(s).

4. A representative 5 cubic yard sample of the proposed Engineered Streambed Material shall be provided to the Engineer for approval, prior to delivery of Engineered Streambed Material to the project site.

5. Sampling and Testing Assistance. Any difference of opinion between the Engineer and the Contractor shall be resolved by dumping and checking the gradation of the two random truck loads of rock. Mechanical equipment, a sorting site and labor needed to assist in checking gradation shall be provided by the Contractor at no additional cost to the District.

1.3 References

A. State of California, Department of Transportation (CALTRANS) State Standard Specifications, May 2006.

1.4 Quality Assurance

A. Tolerances. Place rock slope protection to the satisfaction of the Engineer, within a tolerance of minus 0 to plus 3 inches.

B. Subgrade Preparation. Prior to placement of rock, Engineer shall verify subgrade preparation, and placement of fabric for rock, as required. Where backing is shown on the Drawings, Engineer shall verify subgrade preparation and backing placement prior to placement of outer rock course.

2. PRODUCTS

2.1 Materials

A. Imported Rock. Rock materials and gradation shall conform to Section 72-2.02 Materials of the State Standard Specifications. Rock size classes not designated below, shall be as shown on the Drawings, or as directed by the Engineer.

- Weir Boulders. Weir boulders shall be sub-rounded to angular with a minimum y-axis dimension of 4.5 ft.

- Ballast Boulders. Ballast Boulders shall meet the material specification of Weir Boulders.

- Weir Backing. Weir Backing shall be pit run and consist of dense, hard, durable non-friable stone free of organic debris and other deleterious substances. The rock shall have a minimum specific gravity of 2.5 and shall be sub-angular to rounded. Volcanic cinder material shall not be acceptable. Weir Backing to meet the gradation requirements shown below. Native streambed material may be salvaged from the project area for reuse, provided it meets the Weir Backing gradation requirements.

Table 1: Gradation requirements for Weir Backing, inches or sieve number:

Percent Passing (by weight)	Size Range (inches)
100	24
60-75	18
35-50	8
10-25	1-1/2
5-12	0.02

B. Engineered Streambed Material. Engineered Streambed Material shall consist of dense, hard, durable non-friable stone free of organic debris and other deleterious substances. The rock shall have a minimum specific gravity of 2.5. Volcanic cinder material shall not be acceptable. Engineered Streambed Material shall conform to the gradation requirements of Table 2, below.

Table 2: Gradation requirements for Engineered Streambed Material, inches or sieve size

Percent Passing (by weight)	Size Range (inches)
100	66
70-84	36
40-54	24
25-35	12
5-10	<0.08

C. Rock Slope Protection Fabric. Rock slope protection fabric shall conform to Section 88-1.04 "Rock Slope Protection Fabric" of the State Standard Specifications, Type B. Rock Slope Protection Fabric shall be non-woven, Amoco 4514, as manufactured by Amoco Fabrics and Fibers Company; Geotex 1601, as manufactured by Synthetic Industries; or Mirafi 1160N, as manufactured by TC Mirafi; or approved equal.

D. Live Stake Bundles. Live Stake Bundles shall consist of groups of four or more Live Stakes. Live Stakes are woody plant cuttings, capable of rooting, that are salvaged on site from willow and cottonwood trees and shrubs. Live Stakes to be supplied by the District.

E. Biodegradable Erosion Control Fabric. Biodegradable Erosion Control Fabric shall consist of a double layer of Erosion Control Fabric as shown on the Drawings.

F. Planting Soil. Planting Soil shall consist of the following mix by volume:

. a. 10% - 20% Topsoil
b. 50% - 60% Fine Sand
c. 30% - 40% Compost

a. Topsoil mix shall be uniform, and free of trash, stones, stumps, roots, and other objects larger than 2 inches.

b. Fine Sand shall meet the following gradation:

Sieve Size	Percent Passing (By Weight)	
	Min.	Max.
3/8"	100	100
No.4	90	100
No.8	70	100
No.16	40	95
No.30	15	70
No.40	5	55
No.100	0	15
No.200	0	5

c. Compost shall be mature, stable, weed free, and produced by aerobic decomposition of organic matter. compost feedstock may include, but is not limited to: agricultural, food or industrial residuals; Class A biosolids as defined in the EPA CFR Title 40, Part 503; yard trimmings, or source-separated municipal solid waste. The product must not contain any visible refuse or other physical contaminants, substances toxic to plants, or over 5% sand, silt, clay or rock material by dry weight. The product shall possess no objectionable odors. The moisture level shall be such that no visible water or dust is produced when handling the material.

3. EXECUTION

3.1 Rock Slope Protection Fabric

Place a layer of geotextile fabric below the first rock layer, where shown on the Drawings. At the time of installation, the geotextile shall be rejected if it has defects, rips, holes, flaws, deterioration, or damage incurred during manufacture, transportation, or storage. Prepare surface to receive the geotextile to a relatively smooth condition, free of obstructions, depressions, debris, and soft or low density pockets of material. Place geotextile with the long dimension parallel to flow and laid

smooth and free of tension, stress, folds, wrinkles, or creases. Place the strips to provide a minimum width of 18 inches of overlap for each joint. Remove the temporary pins as rock is placed to relieve tensile stress. Any geotextile fabric that is damaged during its installation shall be replaced by the Contractor at no cost to the District.

3.2 Weir

Install Weirs in accordance with Section 72 of the State Standard Specifications, Method A Placement, as modified below, and to the lines and the minimum dimensions shown on the Drawings. Prior to placement of Weir boulders, Weir Backing shall be placed, inspected and approved by the Engineer.

Weir Boulders shall be individually placed at the direction of the Engineer, with their long axis parallel to flow, and arranged so that each boulder above the foundation course has a 3-point bearing on underlying boulders. Boulders shall be placed such that down-slope boulders buttress up-slope boulders, as shown on the Drawings. Weir Boulders shall be placed tightly to minimize voids. After placement of lower course of Weir Boulders, place Weir Backing within the voids of lower course, prior to placement of the subsequent course. Water-jet the mix to eliminate voids. Weir Backing shall be placed in a manner that does not interfere with direct rock to rock contact of successive courses. The largest of the Weir Boulders shall be selected from the stockpile for use as "crest boulders" within the Weirs of the Low Flow Channel, as directed by the Engineer. Crest boulders shall be individually selected and placed to achieve a steep face on the downstream approach to the weir, to maximize pool depth immediately downstream of the weir. The Contractor shall be prepared to reposition individual boulders repeatedly, to optimize the final weir boulder configuration, as directed by the Engineer. After placement of "crest boulders" place Weir Backing and water-jet mix to eliminate voids.

The number of Weir Boulders shown on the Drawings is diagrammatic. Actual count shall vary, as necessary to achieve the dimensions shown on the Drawings.

3.3 Engineered Streambed Material

A. Engineered Streambed Material shall be placed to the lines, grades and depths shown on the Drawings, or as directed by the Engineer. Uniformly distribute large stones to produce the required gradation of rock. Prevent contamination of rock materials by excavation and/or earth materials. Subgrade shall be uniform with no soil clumps or rocks greater than two inches.

B. Following placement, rock surface shall be jetted with water to improve compaction and embed the fines within the mix. Jetting shall start at the upstream limits of placement and progress downstream. Jetting shall continue until the turbidity levels of runoff produced from the jetting process have reached an acceptable level, in compliance permit conditions and as determined by the Engineer. All sediment-laden runoff generated by the jetting operations shall be pumped to a settling tank or similar device to reduce turbidity to acceptable levels, in compliance with permit conditions, prior to discharge to the creek. Comply with Section 02140, Dewatering.

3.4 Live Stake Bundles.

A. The District will provide and place Live Stake Bundles. Live Stake Bundles shall be installed where shown on the Drawings, or as directed by the Engineer. Contractor shall

be responsible for backfilling and water-jetting all voids around and within bundle. Contractor shall coordinate installation of Live Stake Bundles with the District.

3.5 Fabric Wrapped Soil Pockets

A. Fabric Wrapped Soil Pockets shall be installed where shown on the Drawings, or as directed by the Engineer. Biodegradable Erosion Control Fabric shall be placed coincident with Engineered Streambed Material installation, and filled with Planting Soil, flush to the finished surface of the Engineered Streambed Material. The Biodegradable Erosion Control Fabric shall be placed with the downstream end extending 2 feet beyond the top of the finished surface of the Engineered Streambed Material and extended upstream, leaving enough material to wrap over the top of the Planting Soil. All Biodegradable Erosion Control Fabric seams shall have 18 inches of overlap. Planting Soil shall be placed in lifts not exceeding 8 inches and compacted to 85 percent relative compaction in accordance with Section 02226, Engineered Fill. Any soil evacuated from Soil Pockets during rock placement shall be replaced, at the direction of the Engineer. After the placement of Planting Soil both ends of the fabric shall be placed over the top of the Planting Soil, with the upstream piece of fabric placed over the downstream piece of fabric, and secured with 24-inch long diagonally ripped 2”x4”’s installed at the spacing shown on the Drawings. Additional 2”x4”’s shall be installed, as necessary, to adequately secure all seams and edges, as directed by the Engineer. The planting of Fabric Wrapped Soil Pockets will be performed by the District, including the supply of native vegetation.

END OF SECTION

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SECTION 02272
LOG STRUCTURES

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SECTION 02272
LOG STRUCTURES

1. GENERAL

1.1 Description

A. Work within this section includes furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing the Log Structures, complete in place, including excavation, and backfilling, cable connections, log and ballast boulder supply, preparation, and placement, and backfill of voids, as specified, as shown on the Drawings, or as otherwise directed by the Engineer.

B. Related Sections

1. *Dewatering*, Section 02140

2. *Excavation*, Section 02222

3. *Rock Slope Protection*, Section 02270

1.2 Submittals

A. Submit to the Engineer, for review, the following, prior to delivering materials to the work site:

1. Product data sheet for cable and connectors

2. Product data sheet for epoxy

3. Quarry source for the ballast boulders

4. Photos of all logs. Each log shall be tagged with a number, referenced in the photos. The species of each log, log length, diameter of the log and diameter of the rootwad (if applicable) shall also be provided for each log.

2. PRODUCTS

2.1 Materials

A. Ballast Boulders. Conform to the material requirements of Section 02270, Rock Slope Protection.

B. Cable. Cable shall be 5/8 inch diameter galvanized wire rope with a minimum breaking strength of 25,000 lbs, conforming to ASTM A475.

C. Fasteners. Fasteners shall be forged and galvanized single-saddle wire rope clips, sized to match the cable diameter.

D. Epoxy. Anchoring adhesive shall be a two-component 100% solids epoxy based system supplied in manufacturer's standard cartridge and dispensed through a static-mixing

nozzle supplied by the manufacturer. Epoxy shall meet the minimum requirements of ASTM C-881 specification for Type I, II, IV, and V, Grade 3, Class B and C and must develop minimum 12,650 psi compressive yield strength after 7 day cure. Epoxy must have a heat reflection temperature of a minimum 136 degrees Fahrenheit (58 degrees Celsius). Adhesive shall be Epoxy-Tie SET from Simpson Strong-Tie, Dublin, CA, or approved equivalent.

E. Logs.

1. Logs shall meet the material specifications shown on the Drawings.

2. All logs shall be inspected for approval by the Engineer, prior to installation.

F. Backfill. Backfill shall consist of "Engineered Streambed Material", to match surrounding surface treatments shown on the Drawings.

3. EXECUTION

3.1 General

A. The Contractor shall notify the Engineer 72 hours prior to the placement of Log Structures so that the District can arrange for appropriate inspection. No placement of Log Structures shall be performed without appropriate inspection, as determined by the Engineer. The District will be responsible for costs of providing inspection.

B. The construction of Log Structures requires equipment which can place rock and logs in precise locations. An excavator of a suitable size and containing a thumb is suggested.

C. Placement of the foundation logs and rocks is critical to the success of the Log Structures. To ensure proper placement, the Contractor shall provide a portable pump or other method to de-water excessive ground water from the excavation, as necessary.

D. Rock connections. Holes for cabling into rock shall be drilled into sound material. Hole diameter shall be not more than 1/8 inch greater than that of the cable. Holes shall be drilled to align with the final orientation of the tensile forces in the cable, so as to minimize bending of the cable at the rock surface. Holes shall be cleaned of all dust and debris, prior to installation of cable. Cable shall be thoroughly cleaned with a solution of muriatic acid or with acetone to remove all grease or oil from bonded length. Fill the hole approximately 2/3 with epoxy before inserting the cable to the bottom of the hole. Allow adhesive to set up overnight before applying tension to cable.

E. Cable connections. Each cable connection shall be secured with a minimum of 3 wire clips, tightened to the manufacturer's recommended torque. Prior to clipping wire in place, all slack shall be removed from the cable, as approved by the Engineer.

F. Log Placement. Log placement locations shown on the Drawings are approximate. Exact locations shall be as approved by the Engineer, or his authorized representative.

G. Place rootwads at an elevation where the majority of the root mass is below ordinary low water, as approved by the Engineer.

3.2 Field Quality Control

A. Tolerances. Log and boulder placements shall be as approved by the Engineer.

B. Logs. All logs shall be inspected for approval by the Engineer, prior to installation.

END OF SECTION

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SILT FENCE

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SECTION 02378
SILT FENCE

1. GENERAL

1.1 Description

A. Work under this Section includes furnishing all labor, materials, equipment, and incidentals to install, maintain, and remove Silt Fence, as shown on the Drawings and as specified, or as directed by the Engineer.

B. This Specification is applicable to the use of a geotextile as a vertical, permeable interceptor designed to remove suspended soil from overland water flow. The function of a temporary silt fence is to filter and allow settlement of soil particles from sediment-laden water. The purpose is to prevent the eroded soil from being transported off the construction site by water runoff.

C. Temporary silt fence shall be one of the water pollution control practices for sediment control.

1.2 Related Sections

1. ***Dewatering,*** Section 02140

2. ***Excavation***, Section 02222

1.3 References

A. American Society for Testing and Materials (ASTM):

1. D 4355 - Test Method for Deterioration of Geotextiles from Exposure to Ultraviolet Light and Water (Xenon-Arc Type Apparatus).
2. D 4491 - Test Methods for Water Permeability of Geotextiles by Permittivity.
3. D 4632 - Test Method for Grab Breaking Load and Elongation of Geotextiles.
4. D 4751 - Test Method for Determining Apparent Opening Size of a Geotextile.
5. D 4833 - Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products.
6. D 4873 - Guide for Identification, Storage, and Handling of Geotextiles.

B. State of California, Department of Transportation (CALTRANS) State Standard Specifications, May 2006.

1.4 Submittals

A. Submit to the Engineer for review, the following:

B. Manufacturer's Data and Certification:

1. The Contractor shall provide the Engineer a certificate stating the name of the silt fence manufacturer, product name, style, chemical compositions of filaments or yarns and other pertinent information to fully describe the silt fence fabric.

2. The Manufacturer is responsible for establishing and maintaining a quality control program to assure compliance with the requirements of the Specification. Documentation describing the quality control program shall be made available upon request.

3. Manufacturing Quality Control (MQC) test results shall be provided upon request.

1.5 Delivery, Storage, and Handling

A. Silt fence fabric labeling, shipment and storage shall follow ASTM D 4873.

B. Product labels shall clearly show the manufacturer or supplier name, style name, and roll number.

C. Each shipping document shall include a notation certifying that the material is in accordance with the manufacturer's certificate.

D. Each silt fence roll shall be wrapped with a material that will protect the silt fence from damage due to shipment, water, sunlight, and contaminants.

E. The protective wrapping shall be maintained during periods of shipment and storage. If the wrapping is damaged prior to installation, the outer wrap of silt fence material must be discarded before installation.

F. During storage, silt fence rolls shall be elevated off the ground and adequately covered to protect them from the following: Site construction damage, extended exposure to ultraviolet (UV) radiation, precipitation, chemicals that are strong acids or strong bases, flames, sparks, temperatures in excess of 71 deg C (160 deg F)m and any other environmental condition that might damage the silt fence .

2. PRODUCTS

2.1 Materials

A. At the Contractor's option, temporary silt fence shall be prefabricated or constructed with silt fence fabric, posts, and fasteners.

B. Silt Fence Fabric. Silt fence fabric shall be geotextile manufactured from woven polypropylene or polymer material. Silt fence fabric may be virgin, recycled, or a combination of virgin and recycled polymer materials. No virgin or recycled polymer materials shall contain biodegradable filler materials that can degrade the physical or chemical characteristics of the finished fabric.

Silt fence fabric shall conform to the following requirements:

Specification	Requirements
Width, inches, min.	36
Grab tensile strength (one inch grip), pounds, min. in each direction ASTM Designation: D 4632*	124
Elongation, percent minimum in each direction ASTM Designation: D 4632*	15
Permittivity, 1/sec., min. ASTM Designation: D 4491	0.1
Flow rate, gallons per minute per square foot, min. ASTM Designation: D 4491	10
Ultraviolet stability, percent tensile strength retained after 500 hours, min. ASTM Designation: D 4355 (xenon-arc lamp and water spray weathering method)	70

* or appropriate test method for specific polymer

C. Posts. Posts for temporary silt fence shall be one of the following:

1. Untreated fir or pine, a minimum of 2" x 2" in size, and four feet in length. One end of the post shall be pointed.

2. Steel and have a "U," "T," "L," or other cross sectional shape that can resist failure from lateral loads. The steel posts shall have a minimum weight of 0.8-pound per foot and a minimum length of 4 feet. One end of the steel posts shall be pointed and the other end shall be capped with an orange or red plastic safety cap which fits snugly to the steel post. The Contractor shall submit to the Engineer for approval a sample of the capped steel post prior to installation.

D. Fasteners. Fasteners for attaching silt fence fabric to posts shall be as follows:

1. When prefabricated silt fence is used, posts shall be inserted into sewn pockets.

2. Silt fence fabric shall be attached to wooden posts with nails or staples as shown on the Drawings or as recommended by the manufacturer or supplier. Tie wire or locking plastic fasteners shall be used to fasten the silt fence fabric to steel posts. Maximum spacing of fasteners shall be eight inches along the length of the steel post.

3. EXECUTION

3.1 Preparation

A. Field Assembly:

1. The silt fence fabric shall be installed on the side of the posts facing the slope.

2. The silt fence fabric at the bottom of the fence shall be buried in a "J" configuration to a minimum depth of 150 mm (six inches) in a trench so that no flow can pass under the silt fence. Mechanically pushing 12 inches of the silt fence fabric vertically through the soil may be allowed if the Contractor can

demonstrate to the Engineer that the silt fence fabric will not be damaged and will not slip out of the soil resulting in sediment passing under the silt fence fabric.

3. The trench shall be backfilled and the soil compacted over the silt fence fabric.

4. The silt fence fabric shall be spliced together with a sewn seam only at a support post, or two sections of fence may be overlapped instead.

5. The Contractor must demonstrate to the satisfaction of the Engineer that the silt fence fabric can withstand a sediment load of 1/3 the height of the fence.

6. The posts shall be placed at a spacing as shown on the Drawings. Post should be driven or placed a minimum of 450 mm (18 inches) into the ground. Depth shall be increased to 600 mm (24 inches) if fence is placed on a slope of 3:1 or greater. Where 450 mm (18 inches) depth is impossible to attain, the posts should be adequately secured to prevent overturning of the fence due to sediment loading.

7. Support fence, if required, shall be fastened securely to the upslope side of the fence post. The support fence shall extend from the ground surface to the top of the silt fence fabric.

8. When self-supported fence is used, the silt fence fabric shall be securely fastened to fence posts.

9. Temporary silt fence shall be installed parallel with the slope contour in reaches not to exceed 500 feet. A reach is considered a continuous run of temporary silt fence from end to end or from an end to an opening, including joined panels. Each reach shall be constructed so that the elevation at the base of the fence does not deviate from the contour more than 1/3 of the fence height. The fence shall be placed such that water cannot runoff around the end of the fence; this may be accomplished by constructing end-returns that angle up the slope.

10. The silt fence should be limited to handle an area equivalent to 90 square meters (100 sy) per three meters (ten feet) of fence. Caution should be used where the site slope is greater than 1:1 and water flow rates exceed three liters (0.8 gallons) per second per three meters (ten feet) of fence.

3.2 Inspection

A. The Contractor shall inspect all temporary silt fences immediately after each rainfall, and at least daily during prolonged rainfall. Any deficiencies shall be immediately corrected by the Contractor.

B. The Contractor shall also make a daily review of the location of silt fences in areas where construction activities have altered the natural contour and drainage runoff to ensure that the silt fences are properly located for effectiveness. Where deficiencies exist as determined by the Engineer, additional silt fence shall be installed as directed by the Engineer. Damaged or otherwise ineffective silt fences shall be repaired or replaced promptly.

C. Sediment deposits shall either be removed when the deposit reaches one third the height of the fence, or a second silt fence shall be installed as directed by the Engineer.

3.3 Removal

A. The silt fence shall remain in place until the Engineer directs it be removed. Upon removal, the Contractor shall remove and dispose of any excess sediment accumulations, use hand tools to grade disturbed areas to drain in the pre-disturbance direction, and revegetate all bare areas in accordance with contract requirements. Trimming the silt fence fabric and leaving it in place will not be allowed.

B. Removed silt fence may be used at other locations provided the silt fence fabric and other material requirements continue to be met to the satisfaction of the Engineer.

C. Ground disturbance caused by the installation and removal of the temporary silt fence shall be backfilled and repaired in conformance with the provisions in Section 15-1.02, "Preservation of Property," of the Standard Specifications.

END OF SECTION

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SECTION 02379
FIBER ROLL

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SECTION 02379
FIBER ROLL

1. GENERAL

1.1 Description

A. Work under this Section includes furnishing all labor, materials, equipment, and incidentals to install and maintain Fiber Roll, as shown on the Drawings, as specified, or as otherwise directed by the Engineer.

B. Fiber Roll shall be furnished, installed, and maintained at the locations shown on the Drawings, as specified, or as directed by the Engineer.

C. Related Sections

1. ***Excavation***, Section 02222

2. ***Erosion Control Blanket***, Section 02201

1.2 Submittals

A. Submit to the Engineer, for review, the following manufacturer's data and Certification's:

1. A certificate stating the name of the Fiber Roll manufacturer, product name, style compositions of filaments or yarns and other pertinent information to fully describe the geotextile, along with the manufacturer's certification of compliance with the material specifications contained herein.

2. PRODUCTS

2.1 Materials

A. Fiber Roll materials may generally be either of the two types indicated below, unless coir rolls are specifically specified on the Drawings. Where coir rolls are indicated on the drawings, straw rolls will not be allowed as a substitute.

B. Coir Roll. Coir Roll shall be:

1. A pre-manufactured roll made from coconut fiber encapsulated within a biodegradable jute, sisal, or coir fiber netting. The netting shall have a minimum durability of 2 years after installation. The netting shall be secured tightly at each end of the roll. Rolls shall be between eight inches and 12 inches in diameter. Rolls between eight inches and ten inches in diameter shall have a minimum weight of one pound per linear foot and a minimum length of 20 feet. Rolls between ten inches and 12 inches in diameter shall have a minimum weight of three pounds per linear foot and a minimum length of 10 feet.

C. Straw Roll. Straw Roll shall be:

1. A pre-manufactured roll made from 100% weed free rice straw and wrapped in a 100% biodegradable tubular 7 oz. Plain Burlap liner. The burlap is Medium Weight Natural Burlap with a 9 X 8 Warp & Fill, and a minimum weight of 7 oz. per square yard. Plastic netting will not be accepted as an alternate.

2. 9-inch rolls shall have a mimimum weight of approximately 1.6 pounds per foot.

3. 12-inch rolls shall have a mimimum weight of approximately 3.8 pounds per foot.

D. Stakes. Wood stakes shall be a minimum of 2" x 4" x 24" (ripped diagonally) in size for Type 1 installation or a minimum of 1" x 2" x 24" in size with a one-half inch notch (each dimension) cut two inches from the top into the 2-inch axis of the stake for Type 2 installation. Wood stakes shall be untreated fir, redwood, cedar, or pine and cut from sound timber. They shall be straight and free of loose or unsound knots and other defects which would render them unfit for the purpose intended. Metal stakes shall not be used.

E. Rope. Rope shall be biodegradable, such as sisal or manila, with a minimum diameter of 1/4 inch.

3. EXECUTION

3.1 Installation

A. Fiber Roll shall be installed as follows:

1. Type 1: Furrows shall be constructed to a depth between three inches and four inches, and to a sufficient width to hold the Fiber Roll. Stakes shall be installed 36 inches apart along the length of the Fiber Roll and stopped at 12 inches from each end of the rolls. Stakes shall be driven to between two and three inches above the top of the roll.

2. Type 2: Rope and notched stakes shall be used to restrain the Fiber Rolls against the slope. Stakes shall be driven into the slope until the notch is even with the top of the Fiber Roll. Rope shall be knotted at each stake and laced between stakes. After installation of the rope, stakes shall be driven into the slope such that the rope will hold the Fiber Roll tightly to the slope. Furrows will not be required.

3. Fiber Roll shall be placed 10 feet apart along the slope for slope inclination (horizontal:vertical) of 2:1 and steeper, 15 feet apart along the slope for slope inclination between 2:1 and 4:1, 20 feet apart along the slope for slope inclination between 4:1 and 10:1, and a maximum of 50 feet apart along the slope for slope inclination of 10:1 and flatter.

4. The bedding area for the Fiber Roll shall be cleared of obstructions including rocks, clods, and debris greater than one inch in diameter before installation.

5. Fiber Roll shall be installed approximately parallel to the slope contour and the terminus of rows shall be angled up-slope at 45 degrees for a distance of three feet. Where fiber rolls meet, provide an overlap of two feet, with adjacent rolls tightly abutting each other.

6. Fiber Roll shall be installed prior to seeding where used without slope protection fabric.

7. Fiber roll shall be installed over fabric (after seeding) where slope protection fabric is specified.

3.2 Maintenance

A. The Contractor shall inspect all Fiber Roll immediately after each rainfall, and at least daily during prolonged rainfall. Any deficiencies shall be immediately corrected by the Contractor.

B. The Contractor shall also make a daily review of the location of Fiber Roll in areas where construction activities have altered the natural contour and drainage runoff to ensure that the Fiber Rolls are properly located for effectiveness. Where deficiencies exist as determined by the Engineer, additional Fiber Rolls shall be installed as directed by the Engineer.

C. Damaged or otherwise ineffective Fiber Roll shall be repaired or replaced promptly. Fiber Roll shall be maintained to disperse concentrated water runoff and to reduce runoff velocities. Split, torn, or unraveling rolls shall be repaired or replaced. Broken or split stakes shall be replaced. Sagging or slumping Fiber Roll shall be repaired with additional stakes or replaced. Locations where rills and other evidence of concentrated runoff have occurred beneath the rolls shall be corrected. Fiber Roll shall be repaired or replaced within 24 hours of identifying the deficiency.

3.3 Removal

A. Fiber Rolls shall remain in place unless specified for removal by the Engineer..

END OF SECTION

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SECTION 02932
EROSION CONTROL SEEDING

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SECTION 02932
EROSION CONTROL SEEDING

1. GENERAL

1.1 Description

A. Work covered under this section consists of furnishing all labor, tools, materials, equipment and incidentals required to perform Erosion Control Seeding, as specified, as shown on the Drawings, or as directed by the Engineer.

1.2 Related Work

A. The work described under this section is related to the following sections of the Specifications:

B.

1. ***Excavation***, Section 02222

2. ***Engineered Fill,*** Section 02226

3. ***Rock Slope Protection***, Section 02270

1.3 Submittals

A. Submit to the Engineer, for review, the following:

1. List of origin/collection location for each seed species.

2. A representative one-ounce sample of each seed mixture supplied for the job, labeled as to content, purity, and germination percentage.

3. Duplicate copies of invoices for all materials.

1.4 Quality Assurance

A. All seed shall be labeled in accordance with the California Food and Agricultural Code and shall be delivered to the site in sealed individual, unmixed bags with the vendor's certificate attached. Seed shall be sampled and tested in accordance with the State Standard Specifications. Seed treated with mercury compounds shall not be used.

B. Seed which has become wet, moldy, or otherwise damaged in transit or in storage, will not be acceptable.

2. PRODUCTS

2.1 Materials

A. Seed Source. Seed shall be collected or propagated from source populations within the Central Western (CW) region of the California Floristic Province.

B. Seed shall be pre-mixed, as appropriate, by the supplier before shipment to the Project site. At no time shall the seed mix contain noxious weed seed. Seed shall be maintained in optimal health and be protected at all times from animal damage; vandalism; inclement weather conditions, including drought, wind, and frost; toxic water; sunlight; moisture; or contact with vehicles, equipment, and tools and any other conditions that would damage or reduce the viability of the seed.

C. Seed Mix. The seed mix and application rates are as shown on the Drawings. No substitutions are allowed without written consent of the Engineer.

D. Straw Mulch. Straw mulch shall be derived from wheat or barley. The Contractor shall furnish evidence that clearance has been obtained from the County Agricultural Commissioner, as required by law, before straw obtained from outside the county in which it is to be used is delivered to the site of the work. Straw that has been used for stable bedding shall not be used. Straw shall be free of mold. Straw shall be cured and dry with no water added after baling. Source must meet or exceed state certification standards for "weed free".

E. Water. Water shall be furnished by the Contractor and shall be free of chemicals detrimental to the seed mixture.

3. EXECUTION

3.1 Preparation

A. General. Seed the areas disturbed by construction activities, which are not receiving rock treatments, as specified or as directed by the Engineer.

B. Debris Removal. Prior to ground surface preparation operations remove and dispose of all wire, rubbish, stones, and other material which might hinder proper grading, and subsequent maintenance.

C. Surface Preparation. Surfaces which are too hard or smooth to accept the seeding, as determined by the Engineer, shall be broken up to a minimum depth of 6 inches, by disking or other methods approved by the Engineer, until the condition of the soil is acceptable. When conditions are such, by reason of excessive moisture or other factors, that satisfactory results are not likely to be obtained, the work shall be stopped and shall be resumed only when directed. Slopes in excess of 25% shall be prepared by track-walking or equivalent method approved by the Engineer.

3.2 Application of Seed

A. Existing Features. During seeding operations, care shall be taken to avoid damaging existing facilities, vegetation to remain, or any other items on or around the planting areas.

B. Seeding Areas: Apply seed to all disturbed areas, or as directed by the Engineer.

C. Time of Seeding

1. Perform all seeding between October 15th and November 1st of the year construction begins. The seeding operation shall be halted when, in the opinion of the Engineer, conditions of high winds, excessive moisture or other factors are not conducive to satisfactory results. Upon written request of the Contractor, and upon written approval of the Engineer, seeding may be done during off seasons provided that:

   a. The resulting stand of grass shall be at least equal to the stand that might be expected from planting during the normal season.

D. Broadcast Seeding. Seed shall be dry-applied by the following method:

1. Broadcast seed at the rates specified on the Drawings, uniformly by hand, mechanical hand seeder, combination seed spreader and cultipacker, or other approved equipment. Where seed is broadcast by hand or mechanical hand seeder, half the seed shall be sown with the sower moving in one direction, and the remainder sown with the sower moving at right angles to the first sowing. Broadcast seeding shall not be done during windy weather.

2. Rake seed into the soil to achieve a sowing depth of approximately 1/8 inch to 1/4 inch.

3. Following the application of seed, straw mulch shall be pneumatically applied or hand broadcast at the rate of 3,000 pounds per acre.

3.3 Field Quality Control

A. During the course of work or upon completion of the project, a check of the quantities of materials will be made against the areas treated, and if the minimum rates of application have not been met, the Engineer will require the distribution of additional quantities of those materials to make up the minimum applications specified.

END OF SECTION

SECTION 11. AMENDMENTS TO STANDARD SPECIFICATIONS

SECTION 5 CONTROL OF WORK
(Issued 06-10-10)

Add:

5-1.055 SUBCONTRACTING

5-1.055A General

No subcontract releases you from the contract or relieves you of your responsibility for a subcontractor's work.

If you violate Pub Cont Code § 4100 et seq., the Department may exercise the remedies provided under Pub Cont Code § 4110. The Department may refer the violation to the Contractors State License Board as provided under Pub Cont Code § 4111.

Except for a building-construction non-federal-aid contract, perform work equaling at least 30 percent of the value of the original total bid with your employees and with equipment owned or rented by you, with or without operators.

Each subcontract must comply with the contract.

The Department encourages you to include a dispute resolution process in each subcontract.

Each subcontractor must have an active and valid State contractor's license with a classification appropriate for the work to be performed (Bus & Prof Code, § 7000 et seq.).

Submit copies of subcontracts upon request.

Before subcontracted work starts, submit a Subcontracting Request form.

Do not use a debarred contractor; a current list of debarred contractors is available at the Department of Industrial Relations' Web site.

Upon request, immediately remove and not again use a subcontractor who fails to prosecute the work satisfactorily.

5-1.116 DIFFERING SITE CONDITIONS (23 CFR 635.109)

5-1.116A Contractor's Notification

Promptly notify the Engineer if you find either of the following:

1. Physical conditions differing materially from either of the following:

    1.1. Contract documents
    1.2. Job site examination

2. Physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract

Include details explaining the information you relied on and the material differences you discovered.

If you fail to notify the Engineer promptly, you waive the differing site condition claim for the period between your discovery of the differing site condition and your notification to the Engineer.

If you disturb the site after discovery and before the Engineer's investigation, you waive the differing site condition claim.

5-1.116B Engineer's Investigation and Decision

Upon your notification, the Engineer investigates job site conditions and:

1. Notifies you whether to resume affected work
2. Decides whether the condition differs materially and is cause for an adjustment of time, payment, or both

You may protest the Engineer's decision.

SECTION 6 CONTROL OF MATERIALS
(Issued 05-01-09)

Replace Section 6-1.05 with:

6-1.05 SPECIFIC BRAND OR TRADE NAME AND SUBSTITUTION

A reference to a specific brand or trade name establishes a quality standard and is not intended to limit competition. You may use a product that is equal to or better than the specified brand or trade name if approved.

Submit a substitution request within a time period that:

1. Follows Contract award
2. Allows 30 days for review
3. Causes no delay

Include substantiating data with the substitution request that proves the substitution:

1. Is of equal or better quality and suitability
2. Causes no delay in product delivery and installation

6-1.075 GUARANTEE

Guarantee the work remains free from substantial defects for 1 year after contract acceptance except for work parts for which you were relieved of maintenance and protection. Guarantee each of these relieved work parts for 1 year after the relief date.

The guarantee excludes damage or displacement caused by an event outside your control including:

1. Normal wear and tear
2. Improper operation

3. Insufficient maintenance
4. Abuse
5. Unauthorized change
6. Act of God

During the guarantee period, repair or replace each work portion having a substantial defect.

The Department does not pay for corrective work.

During corrective work activities, provide insurance coverage specified for coverage before contract acceptance.

The contract bonds must be in full force and effect until the later of:

1. Expiration of guarantee period
2. Completion of corrective work

If a warranty specification conflicts with Section 6-1.075, "Guarantee," comply with the warranty specification.

During the guarantee period, the Engineer monitors the completed work. If the Engineer finds work having a substantial defect, the Engineer lists work parts and furnishes you the list.

Within 10 days of receipt of the list, submit for authorization a detailed plan for correcting the work. Include a schedule that includes:

1. Start and completion dates
2. List of labor, equipment, materials, and any special services you plan to use
3. Work related to the corrective work, including traffic control and temporary and permanent pavement markings

The Engineer notifies you when the plan is authorized. Start corrective work and related work within 15 days of notice.

If the Engineer determines corrective work is urgently required to prevent injury or property damage:

1. The Engineer furnishes you a request to start emergency repair work and a list of parts requiring corrective work
2. Mobilize within 24 hours and start work
3. Submit a corrective work plan within 5 days of starting emergency repair work

If you fail to perform work as specified, the Department may perform the work and bill you.

SECTION 9 MEASUREMENT AND PAYMENT
(Issued 03-11-10)

In Section 9-1.03A replace the 2nd paragraph with:

To the total of the direct costs computed as provided in Sections 9-1.03A(1), "Labor," 9-1.03A(2), "Materials," and 9-1.03A(3), "Equipment Rental," there will be added a markup of 35 percent to the cost of labor, 15 percent to the cost of materials, and 15 percent to the cost of equipment rental.

In Section 9-1.03A replace the 4th paragraph with:

If a subcontractor performs work at force account, accept an additional 10 percent markup to the total cost of that work paid at force account, including markups specified in Section 9-1.03, "Force Account Payment," as reimbursement for additional administrative costs.

Replace Section 9-1.03B with:

The Contractor, and all subcontractors obtained before or after contract execution, shall itemize the labor, material, and equipment rental costs, and shall not be deemed specialists unless the selected Contractor or available subcontractors on site are not capable of performing the specialty work and it is not the special service industry's established practice to provide cost itemization. In addition, the Engineer may approve work required to be performed at an off-site manufacturing plant or machine shop to be paid as a non-itemized specialist billing. To obtain approval as a specialist, the Contractor shall submit on behalf of the subcontractor a request to the Engineer prior to the start of the proposed specialist work.

If approval is granted, the Engineer will accept the non-itemized invoices for specialty work performed, provided the invoices are at current market rates. Markup percentages of Section 9-1.03A, "Work Performed by Contractor," will not apply. A markup of 10 percent will be added to the total cost of the extra work. The 10 percent markup shall reimburse the Contractor for additional administrative costs, and no other payment will be made by reason of performance of the extra work by a specialist.

If approval is not granted prior to the start of the proposed specialty work, the Contractor or subcontractor shall itemize labor, material, and equipment rental costs and apply percentage markups as required by Section 9-1.03A, "Work Performed by Contractor."

In Section 9-1.03C delete the 6th paragraph.

SECTION 12 CONSTRUCTION AREA TRAFFIC CONTROL DEVICES
(Issued 11-07-08)

In Section 12-1.01 in the 2nd paragraph, replace the 1st sentence with:

Attention is directed to Part 6 of the California MUTCD.

Replace Section 12-2.01 with:

12-2.01 FLAGGERS

Flaggers while on duty and assigned to traffic control or to give warning to the public that the highway is under construction and of any dangerous conditions to be encountered as a result thereof, shall perform their duties and shall be provided with the necessary equipment in conformance with Part 6 of the California MUTCD. The equipment shall be furnished and kept clean and in good repair by the Contractor at the Contractor's expense.

All flaggers shall wear safety apparel meeting the requirements of ANSI/ISEA 107-2004 for Class 2 or 3 garment and complying with 71 Fed Reg 67792.

In Section 12-3.01 replace the 1st paragraph with:

In addition to the requirements in Part 6 of the California MUTCD, all devices used by the Contractor in the performance of the work shall conform to the provisions in this Section 12-3.

In Section 12-3.06 in the 1st paragraph, replace the 2nd sentence with:

Construction area signs are shown in or referred to in Part 6 of the California MUTCD.

In Section 12-3.06 in the 4th paragraph, replace the 1st sentence with:

All construction area signs shall conform to the dimensions, color and legend requirements of the plans, Part 6 of the California MUTCD and these specifications.

In Section 12-3.06 in the 8th paragraph, replace the 1st sentence with:

Used signs with the specified sheeting material will be considered satisfactory if they conform to the requirements for visibility and legibility and the colors conform to the requirements in Part 6 of the California MUTCD.

SECTION 14 (BLANK)
(Issued 06-05-09)

Replace Section 14 with:
SECTION 14 ENVIRONMENTAL STEWARDSHIP
14-1 GENERAL

14-1.01 GENERAL

Environmental stewardship includes both environmental compliance and environmental resource management.

If an ESA is shown on the plans:

1. The boundaries shown are approximate; the Department marks the exact boundaries on the ground
2. Do not enter the ESA unless authorized
3. If the ESA is breached, immediately:
   3.1. Secure the area and stop all operations within 60 feet of the ESA boundary
   3.2. Notify the Engineer
4. If the ESA is damaged, the Department determines what efforts are necessary to remedy the damage and who performs the remedy; you are responsible for remedies and charges.

14-2 CULTURAL RESOURCES

14-2.01 GENERAL

Reserved

14-2.02 ARCHAEOLOGICAL RESOURCES

If archaeological resources are discovered at the job site, do not disturb the resources and immediately:

1. Stop all work within a 60-foot radius of the discovery
2. Protect the discovery area
3. Notify the Engineer

The Department investigates. Do not take archaeological resources from the job site. Do not resume work within the discovery area until authorized.

If, in the opinion of the Engineer, completion of the work is delayed or interfered with by reason of an archaeological find, or investigation or recovery of archeological materials, you will be compensated for resulting losses, and an extension of time will be granted, in the same manner as provided for in Section 8-1.09, "Right of Way Delays."

If ordered, furnish resources to assist in the investigation or recovery of archaeological resources. This work will be paid for as extra work as specified in Section 4-1.03D, "Extra Work."

14-2.03 ARCHAEOLOGICAL MONITORING AREA

Section 14-2.03 applies if an AMA is described in the Contract.

The Department assigns an archaeological monitor to monitor job site activities within the AMA. Do not work within the AMA unless the archeological monitor is present.

The Engineer and the Department archaeological monitor conduct an AMA location field review with you at least 5 business days before start of work. The Department marks the exact boundaries of the AMA on the ground.

If temporary fence (Type ESA) for an AMA is described in the Contract, install temporary fence (Type ESA) to define the boundaries of the AMA during the AMA location field review.

At least 5 business days before starting work within an AMA, submit a schedule of days and hours to be worked for the Engineer's approval. If you require changes in the schedule, submit an update for the Engineer's approval at least 5 business days before any changed work day.

If archaeological resources are discovered within an AMA, comply with Section 14-2.02, "Archaeological Resources."

14-2.04 HISTORIC STRUCTURES

Reserved

14-3 COMMUNITY IMPACTS AND ENVIRONMENTAL JUSTICE

Reserved

14-4 NATIVE AMERICAN CONCERNS

Reserved

14-5 AESTHETICS

Reserved

14-6 BIOLOGICAL RESOURCES

14-6.01 GENERAL

Reserved

14-6.02 BIRD PROTECTION

Protect migratory and nongame birds, their occupied nests, and their eggs.

The Department anticipates nesting or attempted nesting from February 15 to September 1.

The federal Migratory Bird Treaty Act, 16 USC § 703–711, and 50 CFR Pt 10 and Fish & Game Code §§ 3503, 3513, and 3800 protect migratory and nongame birds, their occupied nests, and their eggs.

The federal Endangered Species Act of 1973, 16 USC §§ 1531 and 1543, and the California Endangered Species Act, Fish & Game Code §§ 2050–2115.5, prohibit the take of listed species and protect occupied and unoccupied nests of threatened and endangered bird species.

The Bald and Golden Eagle Protection Act, 16 USC § 668, prohibits the destruction of bald and golden eagles and their occupied and unoccupied nests.

If migratory or nongame bird nests are discovered that may be adversely affected by construction activities or an injured or killed bird is found, immediately:

1. Stop all work within a 100-foot radius of the discovery.
2. Notify the Engineer.

The Department investigates. Do not resume work within the specified radius of the discovery until authorized.

When ordered, use exclusion devices, take nesting prevention measures, remove and dispose of partially constructed and unoccupied nests of migratory or nongame birds on a regular basis to prevent their occupation, or perform any combination of these. This work will be paid for as extra work as specified in Section 4-1.03D, "Extra Work."

Prevent nest materials from falling into waterways.

Bird protection that causes a delay to the controlling activity is a condition unfavorable to the suitable prosecution of work as specified in Section 8-1.05, "Temporary Suspension of Work."

14-7 PALEONTOLOGICAL RESOURCES

If paleontological resources are discovered at the job site, do not disturb the material and immediately:

1. Stop all work within a 60-foot radius of the discovery
2. Protect the area
3. Notify the Engineer

The Department investigates and modifies the dimensions of the protected area if necessary. Do not take paleontological resources from the job site. Do not resume work within the specified radius of the discovery until authorized.

14-8 NOISE AND VIBRATION

14-8.01 GENERAL

Reserved

14-8.02 NOISE CONTROL

Do not exceed 86 dBa at 50 feet from the job site activities from 9 p.m. to 6 a.m.

Equip an internal combustion engine with the manufacturer-recommended muffler. Do not operate an internal combustion engine on the job site without the appropriate muffler.

14-9 AIR QUALITY

14-9.01 AIR POLLUTION CONTROL

Comply with air pollution control rules, regulations, ordinances, and statutes that apply to work performed under the Contract, including air pollution control rules,

regulations, ordinances, and statutes provided in Govt Code § 11017 (Pub Cont Code § 10231).

Do not burn material to be disposed of.

14-9.02 DUST CONTROL

Prevent and alleviate dust by applying water, dust palliative, or both under Section 14-9.01.

Apply water under Section 17, "Watering."

Apply dust palliative under Section 18,"Dust Palliative."

If ordered, apply water, dust palliative, or both to control dust caused by public traffic. This work will be paid for as extra work as specified in Section 4-1.03D, "Extra Work."

14-10 SOLID WASTE DISPOSAL AND RECYCLING

14-10.01 SOLID WASTE DISPOSAL AND RECYCLING

Submit an annual Solid Waste Disposal and Recycling Report between January 1 and 15 for each year work is performed under the Contract at any time during the previous calendar year. Show the types and amounts of project-generated solid waste taken to or diverted from landfills or reused on the project from January 1 through December 31 of the previous calendar year.

Submit a final annual Solid Waste Disposal and Recycling Report within 5 business days after Contract acceptance. Show the types and amounts of project-generated solid waste taken to or diverted from landfills or reused on the project from January 1 to Contract acceptance.

For each failure to submit a completed form, the Department withholds $10,000.

14-11 HAZARDOUS WASTE AND CONTAMINATION

14-11.01 GENERAL

Reserved

14-11.02 ASBESTOS AND HAZARDOUS SUBSTANCES

Upon discovery, immediately stop working in and notify the Engineer of areas where asbestos or a hazardous substance is present if the:

1. Contractor reasonably believes the substance is asbestos as defined in Labor Code § 6501.7 or a hazardous substance as defined in Health & Safety Code §§ 25316 and 25317
2. Presence is not described in the Contract
3. Substance has not been made harmless

14-12 OTHER INTERAGENCY RELATIONS

Reserved

14-13 PAYMENT

Payment for work specified in Section 14 is included in the payment for the bid items involved unless:

1. Bid item for the work is shown in the verified Bid Item List
2. Work is specified as paid for as extra work

ast 2,500 vibrations per minute and must be equipped with amplitude and frequency controls. The roller's gross static weight must be at least 7.5 tons.

SECTION 19 EARTHWORK
(Issued 09-16-11)

Replace Section 19-1.02 with:

19-1.02 (BLANK)

Replace Section 19-1.03 with:

19-1.03 GRADE TOLERANCE

Immediately prior to placing subsequent layers of material thereon, the grading plane shall conform to one of the following:

A. When hot mix asphalt is to be placed on the grading plane, the grading plane at any point shall not vary more than 0.05 foot above or below the grade established by the Engineer.
B. When subbase or base material to be placed on the grading plane is to be paid for by the ton, the grading plane at any point shall not vary more than 0.10 foot above or below the grade established by the Engineer.
C. When the material to be placed on the grading plane is to be paid for by the cubic yard, the grading plane at any point shall be not more than 0.05 foot above the grade established by the Engineer.

In Section 19-3.025C replace the 1st paragraph with:

Cementitious material used in soil cement bedding shall conform to the provisions in Section 90-2.01, "Cementitious Materials." Supplementary cementitious material will not be required.

In Section 19-3.025C replace the 4th paragraph with:

The aggregate, cementitious material, and water shall be proportioned either by weight or by volume. Soil cement bedding shall contain not less than 282 pounds of cementitious material per cubic yard. The water content shall be sufficient to produce a fluid, workable mix that will flow and can be pumped without segregation of the aggregate while being placed.

In Section 19-3.06 replace the 9th paragraph with:

Unless otherwise shown on the plans or specified in these specifications or the special provisions, material for structure backfill to be compacted to a relative compaction of not less than 90 percent, except material to be placed behind retaining walls, shall consist of material free of rocks, broken concrete, other solid material exceeding 3 inches in greatest dimension, or organic or other unsatisfactory material.

In Section 19-3.062 replace the 1st paragraph with:

Slurry cement backfill shall consist of a fluid, workable mixture of aggregate, cementitious material, and water.

In Section 19-3.062 replace the 5th paragraph with:

Cementitious material shall conform to the provisions in Section 90-2.01, "Cementitious Materials." Supplementary cementitious material will not be required.

In Section 19-3.062 replace the 8th paragraph with:

The aggregate, cementitious material, and water shall be proportioned either by weight or by volume. Slurry cement backfill shall contain not less than 188 pounds of cementitious material per cubic yard. The water content shall be sufficient to produce a fluid, workable mix that will flow and can be pumped without segregation of the aggregate while being placed.

SECTION 72 SLOPE PROTECTION
(Issued 03-13-09)

In Section 72-4.04 replace the 6th paragraph with:

Pervious backfill material, if required by the plans, shall be placed as shown. A securely tied sack containing one cubic foot of pervious backfill material shall be placed at each weep hole and drain hole. The sack material shall conform to the requirements for filter fabric in Section 88-1.02, "Filtration."

SECTION 88 ENGINEERING FABRICS
(Issued 01-20-12)

Replace Section 88 with:
SECTION 88 GEOSYNTHETICS

88-1.01 GENERAL

88-1.01A Summary

Section 88 includes specifications for geosynthetics. Geosynthetics are used for:

1. Filtration
2. Drainage
3. Reinforcement
4. Water pollution control
5. Channel and shore protection
6. Pavement interlayer
7. Separation and stabilization

88-1.01B Submittals

Submit:

1. Certificate of Compliance under Section 6-1.07, "Certificates of Compliance"
2. Samples representing each lot
3. Minimum average roll values (MARV)

Label submittals with the manufacturer's name and product information.

88-1.01C Quality Control and Assurance

Treat geosynthetics to resist degradation from exposure to sunlight. Using covers, protect geosynthetics from moisture, sunlight, and shipping and storage damage.

88-1.02 FILTRATION

88-1.02A Filter Fabric

Geosynthetics used for filter fabric must be permeable and nonwoven. Filter fabric must consist of 1 of the following:

1. Polyester
2. Polypropylene
3. Combined polyester and polypropylene

Filter fabric must comply with:

Filter Fabric

Property	ASTM	Specification		
		Class A	Class B	Class C
Grab breaking load, 1-inch grip, lb minimum in each direction	D 4632	157		
Apparent elongation, percent minimum in each direction	D 4632	50		
Puncture strength, lb minimum	D 6241	600		
Ultraviolet resistance, percent minimum retained grab breaking load, 500 hr	D 4355	70		
Permittivity, sec^{-1} minimum	D 4491	0.5	0.2	0.1
Apparent opening size, average roll value, U.S. Standard sieve size maximum	D 4751	40	60	70

88-1.03 DRAINAGE

88-1.03A Geocomposite Wall Drain

Geocomposite wall drain must consist of a polymeric core with filter fabric integrally bonded to 1 or both sides of the core creating a stable drainage void.

Filter fabric must comply with Section 88-1.02, "Filtration."

Geocomposite wall drain must comply with:

Geocomposite Wall Drain

Property	ASTM	Specification
Thickness with fabric, inches maximum	--	2
Transmissivity, gradient = 1.0, normal stress = 5,000 psf, gal/min/ft	D 4716	4

88-1.04 REINFORCEMENT

88-1.04A Geotechnical Subsurface Reinforcement

General

Geosynthetic used for geotechnical subsurface reinforcement must be either of the following:

1. Geotextile
2. Geogrid

Geotextile permittivity must be at least 0.05 sec^{-1} determined under ASTM D 4491.

Geogrid must have a regular and defined open area. The open area must be from 50 to 90 percent of the total grid area.

Long Term Design Strength

Long Term Design Strength (LTDS) of geosynthetic reinforcement is the ultimate tensile strength in the primary strength direction divided by reduction factors. Calculate

the LTDS from the guidelines in Geosynthetic Research Institute (GRI) Standard Practice GG4a, GRI GG4b, or GRI GT7.

The product of the appropriate reduction factors must be at least 1.30. Determine the reduction factor for creep using a 75-year design life for permanent applications and a 5-year design life for temporary applications. Determine the installation damage reduction factor based on the characteristics of the backfill materials used.

If test data is not available, use default values of reduction factors in the GRI Standard Practice to calculate LTDS.

Submit the LTDS and its supporting calculations at least 15 days before placing geosynthetic reinforcement. Do not install before the Engineer's approval. The LTDS must be signed by an engineer who is registered as a civil engineer in the State.

88-1.05 WATER POLLUTION CONTROL

Geosynthetics used for water pollution control must comply with:

Water Pollution Control Geosynthetics

Property	ASTM	Application						
		Silt Fence		Sediment Filter Bag		Gravel-Filled Bags	Temporary Cover	
		Woven	Non-woven	Woven	Non-woven		Woven	Non-woven
Grab breaking load, 1-inch grip, lb minimum in each direction	D 4632	120	120	200	250	205	200	200
Apparent elongation, percent minimum, in each direction	D 4632	15	50	10	50	--	15	50
Water flow rate, gallons per minute/square foot minimum and maximum average roll value	D 4491	10 - 100	100 - 150	100 - 200	75 - 200	80 - 150	4 - 10	80 - 120
Permittivity, sec^{-1} minimum	D 4491	0.05	1.1	1.0	1.0	0.2	0.05	1.0
Apparent opening size, inches maximum average roll value	D 4751	0.023	0.012	0.023	0.012	0.016	0.023	0.012
Ultraviolet resistance, percent minimum retained grab breaking load, 500 hr.	D 4355	70	70	70	70	70	70	70

88-1.06 CHANNEL AND SHORE PROTECTION

88-1.06A Rock Slope Protection

Rock slope protection (RSP) fabric must be a permeable, nonwoven, needle-punched geotextile. RSP fabric consists of 1 of the following:

1. Polyester
2. Polypropylene
3. Combined polyester and polypropylene

Polymers must be either virgin compounds or clean reworked material. Do not subject virgin compounds to use or processing other than required for initial manufacture. Clean reworked material must be previously processed material from the processor's own production that has been reground, pelletized, or solvated. RSP fabric must not consist of more than 20 percent by weight of clean reworked material. Do not use recycled materials from either post-consumer or post-industrial sources.

Class 8 or Class 10 RSP fabric must comply with:

Rock Slope Protection Fabric

Property	ASTM	Specification	
		Class 8	Class 10
Weight, oz/yd^2 minimum	D 5261	7.5	9.5
Grab breaking load, lb 1-inch grip, min. in each direction	D 4632	200	250
Apparent elongation, percent min., in each direction	D 4632	50	50
Permittivity, sec^{-1}, minimum	D 4491	1.0	0.70
Apparent opening size, U.S. Standard sieve size minimum and maximum	D 4751	70 - 100	70 - 100
Ultraviolet resistance, percent minimum retained grab breaking load, 500 hr.	D4355	70	70

88-1.07 PAVEMENT INTERLAYER

88-1.07A Paving Fabric

Geosynthetics used for paving fabric must be nonwoven. Paving fabric must comply with:

Geosynthetic Paving Fabric

Property	ASTM	Specification
Mass per unit area, oz/yd^2 minimum	D 5261	4.1
Grab breaking load, lb 1-inch grip, minimum, in each direction	D 4632	100
Apparent elongation, percent minimum in each direction	D 4632	50
Hydraulic bursting strength, psi minimum	D 3786	200
Melting point, °F minimum	D 276	325
Asphalt retention, gal/yd^2 minimum	D 6140	0.2

88-1.07B Paving Mat

Geosynthetics used for paving mat must be a nonwoven fiberglass and polyester hybrid material. Paving mat must comply with:

Geosynthetic Paving Mat

Property	ASTM	Specification
Breaking force, lb/2 inches minimum	D 5035	45
Ultimate elongation, percent maximum	D 5035	5
Mass per unit area, oz/ sq yd minimum	D 5261	3.7
Melting point, °F minimum	D 276	400
Asphalt retention, gal/yd^2 minimum	D 6140	0.10

88-1.07C Paving Grid

Geosynthetics used for paving grid must be a geopolymer material formed into a grid of integrally connected elements with openings. Paving grid must comply with:

Geosynthetic Paving Grid

Property	Test	Specification		
		Class I	Class II	Class III
Tensile strength at ultimate, lb/in [a] minimum	ASTM D 6637	560 x 1,120	560	280
Aperture size, inch minimum	Calipered	0.5	0.5	0.5
Elongation, % maximum	ASTM D 6637	12	12	12
Mass per area, oz / sqyd minimum	ASTM D 5261	16	10	5.5
Melting point, °F minimum	ASTM D 276	325	325	325

Note:
[a] For Class I, machine direction x cross direction. For Class II and Class III, both directions.

88-1.07D Paving Geocomposite Grid

Paving geocomposite grid consists of paving grid specified under Section 88-1.07C, "Paving Grid," bonded or integrated with paving fabric specified under Section 88-1.07A, "Paving Fabric."

Paving geocomposite grid must have a peel strength of at least 10 pounds per foot determined under ASTM D 413.

88-1.07E Geocomposite Strip Membrane

Geocomposite strip membrane must consist of various widths of strips manufactured from of asphaltic rubber and geosynthetics. Geocomposite strip membrane must comply with:

Geocomposite Strip Membrane

Property	ASTM	Specification
Strip tensile strength, lbs/inch minimum	D 882	50
Elongation at break, % minimum	D 882	50
Resistance to puncture, lbs. minimum	E 154	200
Permeance, perms maximum	E 96/E 96M	0.10
Pliability, 1/4 inch mandrel with sample conditioned at 25 °F	D 146	No cracks in fabric or bitumen
Melting point, °F	D 276	325

88-1.08 SEPARATION AND STABILIZATION

88-1.08A Subgrade Enhancement Geotextile

Subgrade enhancement geotextile must consist of either of the following:

1. Polyester
2. Polypropylene

Subgrade enhancement geotextile must comply with:

Subgrade Enhancement Geotextile

Property	ASTM	Specification [a]				
		Class A1	Class A2	Class B1	Class B2	Class B3
Elongation at break, %	D 4632	<50	≥50	<50	<50	≥50
Grab tensile strength, lb minimum	D4632	250	160	--	320	200
Wide width tensile strength at 5% strain, lb/ft minimum	D 4595	--	--	2,000	--	--
Wide width tensile strength at ultimate strength, lb/ft minimum	D 4595	--	--	4,800	--	--
Tear strength, lb minimum	D 4533	90	60	--	120	80
Puncture strength, lb minimum	D 6241	500	310	620	620	430
Permittivity, sec^{-1} minimum	D 4491	0.05	0.05	0.20	0.20	0.20
Apparent opening size, inches maximum	D 4751	0.012	0.012	0.024	0.012	0.012
Ultraviolet stability (retained strength after 500 hrs exposure), % minimum	D 4355	70	70	70	70	70

Notes:
[a] Specifications are based on minimum average roll value in the weaker principle direction except apparent opening size is based on maximum average roll value.

88-1.09 PAYMENT

The Department measures and pays for geosynthetics under the specifications requiring their use.

SECTION 12.

ENVIRONMENTAL PERMIT SUMMARY FORM

SAN LUIS OBISPO COUNTY
DEPARTMENT OF PUBLIC WORKS
Paavo Ogren, Director

County Government Center, Room 207 • San Luis Obispo CA 93408 • (805) 781-5252
Fax (805) 781-1229 email address: pwd@co.slo.ca.us

ENVIRONMENTAL PERMIT SUMMARY FORM

Date: June 5, 2012

To: Tom Trott, Project Manager

From: Katie Drexhage

Subject: **Environmental Review & Permit Status for the** Arroyo Grande Creek at Rodriguez Road Grade Stabilization Project (300369)

The environmental review and regulatory permit processes for the above referenced project are complete. The following is a summary of the environmental requirements for the project:

Permit	Status	Attachments?
CEQA Review	SUBSEQUENT MND 9/13/11	X
NEPA Review	Not applicable, no federal permits or funding	
Coastal Permit	Not applicable, outside of Coastal Zone	
CZMA	Not applicable, no federal action	
CDFG 1601	1600-2011-0105-R4 9/21/11 (exp 9/21/16)	X
USACOE 404	SPL-2011-00658-BAH	
NMFS ESA		
USFWS ESA	8-8-12-F-17	X
RWQCB 401	34011WQ09 + amendment, 7-15-11	X
NPDES	Not applicable, less than 1 acre	

Measure #	**Special Environmental Conditions**	**Responsibility: Contractor, District or Both**
	PRE-CONSTRUCTION	
1	Please notify the EPD if the project description changes.	District
2	Construction within the jurisdictional areas shall take place only during the dry season, beginning no earlier than June 1 and ending no later than October 31. If a 25% chance or more of rain is predicted within 24 hours, all construction activities must cease and effective erosion and sediment control measures must be implemented. Construction activities may resume after	Contractor

	the rain event has passed.	
3	If construction activities are conducted during the typical nesting bird season (February 15 – September 15), preconstruction surveys shall be conducted by the County-approved biologist or County Environmental Resource Specialist prior to any construction activity or vegetation trimming to identify potential bird nesting activity, and: a. If active nest sites of bird species protected under the Migratory Bird Treaty Act (MBTA) are observed within the vicinity of the project sites, then the projects shall be modified and/or delayed as necessary to avoid direct take of the identified nests, eggs, and/or young; b. If active nest sites of raptors and/or bird species of special concern are observed within the vicinity of either project site, then CDFG shall be contacted to establish the appropriate buffer around the nest site. Construction activities in the buffer zone shall be prohibited until the young have fledged the nest and achieved independence; and c. Active nests shall be documented by a qualified biologist and a letter-report shall be submitted to the County, USFWS, and CDFG, documenting project compliance with the MBTA and applicable project mitigation measures.	District
4	To avoid inadvertent impacts to western pond turtle, red-legged frog, two-striped garter snake, steelhead, and nesting birds during grading and site disturbance activities, a biological monitor will conduct preconstruction surveys in Arroyo Grande Creek and adjacent areas within the Project site, conduct construction employee training prior to site disturbance and continue monitoring during grading and construction activities. In the instance a listed sensitive species is discovered, the County shall contact CDFG, NMFS, and USFWS for consultation, unless otherwise authorized under an NMFS- or USFWS-issued *Biological Opinion*. In the instance nesting birds are discovered, work shall cease until the birds have fledged and left the area, or CDFG or USFWS shall be consulted. If any swallow nests are observed, empty nests shall be removed prior to February 15, and shall continue to remove nests as they are being built to avoid impacts to active nests prior to construction.	District
5	Before any construction activities begin on the project, a biologist shall conduct a training session for all construction personnel. The training session shall include a description of species that may be encountered during construction, the importance of these species and their habitat, the general measures that are being implemented to conserve these species as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.	Both
6	Only Service-approved biological monitors shall be authorized to conduct steelhead and/or red-legged frog relocation efforts. The biological monitor shall be present during both the installation and removal of the creek diversion structure.	District
7	A qualified biological monitor shall be available on-site during initial ground disturbing activities and during any vegetation trimming/removal. The biological monitor shall survey for special status species ahead of any	District

	ground disturbing activity. Following completion of these activities and for the remainder of the Project, the monitor shall then visit the site daily each morning prior to the start of Project-related activities to ensure no special status species have re-entered the site, and to verify compliance with avoidance and minimization measures for special status species.	
8	Pre-activity surveys for sensitive species or their sign (with emphasis on those species listed above in Project Impacts - Plant and Animal Special Status Species) shall be conducted by a qualified biologist within 30 days prior to commencement of the proposed construction activity or as specified within current survey protocols. Be advised that this survey is in addition to any required protocol or biological surveys. The Permittee shall notify the DFG of the discovery of any rare, threatened, or endangered species prior to commencement of construction. Surveys shall be conducted within a minimum 500-foot radius of the "work area". The purpose of pre-activity surveys is to avoid intentional and "incidental take," confirm previous observations, identify any subsequent occupation of the stream corridor and other work areas by listed species, and clearly mark all resources to be avoided by Project activities. All surveys for threatened or endangered Species shall be done in accordance with the appropriate protocol. Surveys for any State threatened, endangered, or fully-protected species shall be completed unless appropriate preconstruction surveys determine the lack of habitat for these species or potential habitat is flagged and avoided.	District
9	Prior to construction, all riparian and wetland areas shall be shown on all construction plans. All riparian vegetation planned for trimming shall be specified and shown on the construction plans.	District
10	If determined to be necessary by the Corps (lead federal agency), the Corps will consult with NMFS and USFWS on behalf of the County for impacts to California red-legged frogs and steelhead. The County will adhere to all conditions included within the Biological Opinions issued for the project.	District
11	Prior to site disturbance, the County shall print Best Management Practices (BMPs) on all applicable construction plans. BMPs shall be implemented prior to, during, and following construction activities. Measures shall include, but not be limited to the following: 1. Silt fencing shall be placed along the down-slope side of the construction zone. 2. A spill and clean-up kit shall be stored onsite at all times. 3. Temporary and permanent erosion and sedimentation measures shall be implemented (e.g., silt fencing, hay bales, straw wattles, etc.).	Both
12	Submit a signed copy of the Department of Fish and Game's streambed alteration agreement to the Central Coast Water Board immediately upon execution and prior to any discharge to water of the State.	District
13	Contact Central Coast Water Board staff when project begins to allow for a site visit.	District
14	County of San Luis Obispo must use adequate Best Management Practices (e.g., revegetation, fiber rolls, erosion control blankets, hydromulching, compost, straw with tackifiers, temporary basins) in and around construction areas to intercept raindrop impacts, control the sources of erosion, and capture sedimentation. County of SLO shall implement washout, trackout, and dust control BMPs.	Contractor
15	County of San Luis Obispo shall apply approved grass seed mixtures with adequate irrigation and soil stabilizers (e.g., compost, hydromulch, tackified	Contractor

	straw) and/or erosion control blankets over seeded areas for slope stabilization.	
16	Prior to construction, exclusionary fencing shall be erected by the contractor at the boundaries of all construction areas to avoid equipment and human intrusion into adjacent creek/wetland habitats. The fencing shall remain in place throughout construction.	Contractor
17	County of San Luis Obispo must designate a staging area for equipment and vehicles fueling and storage at least 100 feet away from waterways, in a location where fluids cannot flow into waterways.	District
18	All vehicle fueling and maintenance activity shall be at least 100 feet away from waterways, and in a location where fluids cannot flow into waterways.	Contractor
19	The contractor shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust off site. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the APCD prior to commencement of construction.	Contractor
20	County of San Luis Obispo must submit a stream diversion and dewatering plan for approval 30 days prior to any stream diversion or dewatering. Stream diversion and dewatering shall not occur without approval of the plan by Central Coast Water Board Staff.	Both
21	A Habitat Mitigation and Monitoring Plan will be prepared and will include specific measures for restoration and revegetation of all temporarily disturbed areas. The Plan will include protection measures, standards for revegetation, a monitoring program to ensure proper implementation and maintenance of restored areas, and performance criteria to determine success. In addition to the mitigation plan, the County Department of Public Works shall prepare and implement an erosion, sedimentation, and pollution prevention plan including measures to avoid discharges into Arroyo Grande Creek.	District
22	County of San Luis Obispo is required to have a spill plan and appropriate spill control and clean up materials (e.g., oil absorbent pads) onsite in case spills occur.	Contractor
23	The Permittee shall submit a construction/work schedule to the Department of Fish and Game (DFG) [mail, or fax to (559) 243-4020 with reference to Agreement 1600-2011-0105-R4] prior to beginning any activities covered by the Agreement. The Permittee shall also notify DFG upon the completion of the activities covered by the Agreement.	Both
24	Prior to starting any activity within the stream, all workers shall have received training from the Permittee, a qualified biologist, or an approved alternate trainer, on the contents of the DFG Agreement, the resources at stake, and the legal consequences of non-compliance.	Both
25	Prior to any activity within the stream, the Permittee shall identify the limits of the required access routes and encroachment into the stream and ponded areas. These “work area” limits shall be identified with brightly-colored flagging/fencing. Work completed under this Agreement shall be limited to this defined area only. Flagging/fencing shall be maintained in good repair for the duration of the Project. All areas beyond the identified work area limits shall be considered Environmentally Sensitive Areas (ESA) and shall not be disturbed.	Both
26	Project-related activities within potentially suitable breeding habitat (slow-running or ponded areas within the stream) shall occur between May 1 and	Contractor

	November 15 which is generally considered outside the active breeding season for the California red-legged frog.	
27	Within 48 hours prior to construction or vegetation removal activities, the Project site shall be surveyed by a qualified biologist for California red-legged frogs. If any California red-legged frogs are found, work shall not start until the U.S. Fish and Wildlife Service and DFG have been contacted and have provided written authorization for work to continue.	District
28	To minimize the possibility of injuring California red-legged frogs and other wildlife, herbaceous and small shrubby vegetation within the Project boundaries that would be disturbed shall be removed by hand prior to the use of heavy equipment or machinery.	Contractor
29	Any turtles discovered at the site immediately prior to or during Project activities shall be captured by a qualified biologist and relocated out of harms way to the nearest suitable habitat immediately upstream or downstream from the Project site.	District
30	To avoid impacts to southern steelhead, no activity shall occur in the live stream.	Both
31	No construction shall be completed from March 1 through July 30 <u>unless the following surveys</u> are completed by a qualified biologist: • <u>Raptors</u>: Survey for nesting activity within a ¼-mile radius of the construction site. Surveys shall be conducted at appropriate nesting times. If any active nests are observed, these nests shall be designated as ESA and protected (while occupied) during Project-construction. A minimum 500-foot avoidance buffer shall be established and maintained around each nest. • <u>Other Avian Species</u>: Survey for other avian nesting activity within a 500-foot radius of the defined work area. Surveys shall be conducted at appropriate nesting times. A minimum 150-foot avoidance buffer shall be established and maintained around each nest. Results of these surveys shall be submitted to DFG.	District
32	The Permittee shall retain a qualified biologist to document the number and species of all woody-stemmed plants/trees in excess of 4 inches DBH that are to be removed or damaged. This information shall be submitted to DFG prior to commencement of work activities. This documentation shall be used as the basis for replacement mitigation.	District
33	The Permittee shall develop plans to control erosion and stabilize areas subject to ground disturbance during construction. A Construction Period Erosion Prevention and Contingency Plan shall be developed and implemented prior to commencement of Project activities. The Plan may include or be comprised of a statement of Best Management Practices (BMPs), winterization plan, etc., used to prevent pollution of surface water.	Contractor
34	A copy of the Construction Period Erosion Prevention and Contingency Plan shall be submitted to CDFG and NMFS.	District
35	Restoration shall include the revegetation of all disturbed soils and new fill, including recontoured slopes and all other cleared areas, with riparian vegetation or other plants as appropriate. The Permittee shall have a qualified biologist prepare and implement a Riparian Revegetation and Restoration Plan and submit it to the DFG for approval prior to commencement of the proposed work. The Revegetation Plan shall address the following: Compensation for removed trees by:	Both

	• Identifying species damaged or removed during Project activities;
	• Describing how, where and when replacement shrubs and trees will be planted;
	  • Native riparian trees (i.e., willow, cottonwood, poplar, alder, ash, etc.) and shrubs having a DBH of greater than 4 inches shall be replaced in-kind at a minimum replacement ratio of 3:1, and planted in the nearest suitable location to the area where they were removed. Trees greater than 24 inches DBH shall be replaced at a minimum 10:1 ratio;
	  • Non-native invasive plant species (such as tamarisk and arundo) may be removed and replaced with native riparian species;
	Proposing measures to be taken (i.e., irrigation methods if necessary and maintenance) to ensure a performance criteria of 70 percent survival of planted trees for a period of 3 consecutive years and 2 additional years without assistance. If the performance criteria has not been met within 5 years, then additional years of monitoring shall be required until the performance criteria has been met, regardless of the term of the DFG Agreement.	

36	In the event surface water flows are encountered in the channel during Project activities, diversion of water flow shall be required to complete Project activities and the Permittee shall submit a Surface Water Diversion Plan. Water drafting, pumping, or other water diversion shall be done in a manner that is not harmful to fish or other aquatic or semi-aquatic species of wildlife. Pump inflow tubes or hoses shall be contained within a 5-millimeter mesh screened cage to exclude all wildlife that may otherwise be harmed in the process.	Both
37	Effects to California red-legged frogs from capture and relocation activities must be minimized.	District
38	Effects to California red-legged frogs during the rainy season must be minimized.	Both
39	Biologists who handle California red-legged frogs must ensure that their activities do not transmit diseases or pathogens. To ensure that diseases are not conveyed between work sites by Service-approved biologists, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force must be followed at all times. A copy of the practice is enclosed. The Service-approved biologists may substitute a bleach solution (1.5 to 1 cup of bleach to 1 gallon of water) for the ethanol solution. Care must be taken so that all traces of the disinfectant are removed before entering the next aquatic habitat.	District
40	No more than 20 California red-legged frog adult or juvenile, 20 frog tadpoles, and 2 egg mass may be incidentally taken. If this level of take is exceeded, reinitiation of consultation will be warranted.	Both
41	Only qualified personnel authorized under the auspices of the BO received for the project can survey for, capture, and relocate California red-legged frogs. The approved biologists include Kate Ballantyne, Katie Drexhage, Eric N. Wier, and John Farhar. The County and Corps must request Service approval of any additional biologists they wish to employ to survey for, capture, and relocate California red-legged frogs from work areas. The request must be in writing by the Service at least 15 days prior to any such activities being conducted.	District

42	Suitable relocation sites for California red-legged frogs must be identified by a Service-approved biologist prior to the initiation of any activities that may require a California red-legged frog to be moved.	District
43	Any excavations that could act to entrap California red-legged frogs must be covered during night time and weekend periods when active construction is not occurring in order to reduce the chance of capturing and confining red-legged frogs in these features.	Both
44	Latex or nitrile gloves must not be used when handling California red-legged frogs. Clean hands, free of lotions, sun screens, and fragrances are recommended. If gloves are necessary, the use of well-rinsed vinyl gloves is recommended.	District
45	If project activities are not completed before the end of the dry season (November 1), no project activities shall occur when the National Oceanic and Atmospheric Administration (http://weather.gov/) projects a 50 percent or greater chance of precipitation within the next 24 hours.	Contractor
46	Following any precipitation event that the Service-approved biologist(s) considers suitable to stimulate California red-legged frog dispersal, a thorough survey of the project area will be conducted to identify and relocate any California red-legged frogs that may have moved into the project area.	District
47	No debris, soil, silt, sand, rubbish, cement or concrete washings thereof, oil or petroleum products or washings thereof, shall be allowed to enter into or placed where it may be washed by rainfall or runoff into Arroyo Grande Creek. When project operations are completed, any and all excess construction materials, debris, and or other associated excess project materials shall be removed to an appropriate off-site location outside of any jurisdictional areas.	Both
48	Staging, storage, fueling, and maintenance of equipment and materials shall be located outside of the Corps' jurisdiction.	Contractor
49	Prior to initiation of construction, the limits of the project's impact area shall be delimited by appropriate means.	Contractor
50	A copy of the ACOE verification letter shall be on the job site at all times during construction. The permittee shall require all forepersons read the authorization in its entirety and acknowledge they understand its contents and their responsibility to ensure compliance with all general and special conditions contained herein.	Both
DURING CONSTRUCTION		
51	Construction activities will not take place before 7 a.m. or after 9 p.m. on any day except Saturday or Sunday, or before 8 a.m. or after 5 p.m. on Saturday or Sunday.	Contractor
52	All non-emergency work activities during the construction phase will be confined to daylight hours.	Contractor
53	No pets shall be permitted to be at the site during construction.	Contractor
54	All trash shall be removed from the site daily to avoid attracting potential predators to the site.	Contractor
55	Any material stockpiled during construction shall be covered with plastic unless reserved for seed banking, which requires alternative erosion and dust control measures.	Contractor
56	If the Permittee, in the performance of the agreed work, discovers the presence of a State-listed species within or adjacent to the Project boundary, work shall stop immediately. The Permittee shall not resume activities authorized by the DFG Agreement until such time as valid “take” permits are	Both

	obtained from DFG pursuant to FGC Section 2081(b).	
57	If any special status species are subsequently discovered on, or within 250 feet of any work site, all potentially disturbing activities shall be halted immediately and work shall not resume until appropriate protective buffer zones are established (unless otherwise approved by DFG).	Both
58	No off-road driving shall be permitted except within the approved work site. Storage and parking areas, as well as borrow and spoil sites, are subject to all of the "take" avoidance and mitigation measures that apply to the other work areas.	Contractor
59	If any other wildlife is encountered during the course of vegetation removal or other Project-related activities, said wildlife shall be allowed to leave the construction area unharmed.	Contractor
60	Only vegetable-based or other "environmentally friendly" bar oil shall be used to lubricate chain saw bars for removing debris or vegetation.	Contractor
61	Removal of native vegetation species (such as willow and cottonwood) shall not exceed the minimum necessary to complete operations and shall only occur within the defined work area. The disturbed portions of the stream bed, banks or channel shall be restored to as near their original condition as possible.	Contractor
62	No native riparian vegetation with a DBH greater than 4 inches shall be damaged or removed from the Project area without mitigating for lost trees at a 3:1 ratio (replace to lost). Mitigation for heritage trees greater than 24-inches DBH shall be replaced at a 10:1 ratio. No vegetation outside of the flagged/fenced work area shall be disturbed.	Both
63	Vegetation or material removed from the stream shall not be stockpiled in the streambed or on its bank.	Contractor
64	The Permittee may remove non-native, invasive vegetation [such as giant reed (*Arundo*), tree of heaven, tree tobacco, castor bean, pampas grass, eucalyptus, and acacia], including stumps and roots from all Project boundaries. The non-native vegetation shall be removed in a manner so that it does not promulgate or propagate. These areas may be revegetated with native species for erosion control and to replace riparian or other vegetation removed elsewhere within the Project boundary.	Both
65	Vehicles shall not be operated in areas where surface water is present. Vehicles shall only operate in the channel during naturally dry conditions.	Contractor
66	Construction vehicle access to the stream's banks and bed shall be limited to predetermined ingress and egress corridors. All other areas adjacent to the work site shall be considered an ESA and shall remain off-limits to construction equipment. Vehicle corridors and the ESA shall be identified by the Permittee's resident engineer in consultation with DFG representative.	Both
67	Any equipment or other vehicles driven and/or operated within or adjacent to the stream shall be checked and maintained daily to prevent leaks of materials that, if introduced to water, could be deleterious to aquatic and terrestrial life.	Contractor
68	Staging and storage areas for equipment, materials, fuels, lubricants, and solvents shall be located out of the stream channel and banks. Stationary equipment such as motors, pumps, generators, compressors and welders, located within or adjacent to the stream, shall be positioned over drip-pans. Vehicles shall be moved away from the stream prior to refueling and lubrication.	Contractor
69	The Permittee confirms that any and all structures and constructed features	District

	shall be properly aligned and otherwise engineered, installed, and maintained, to assure resistance to washout, and to erosion of the stream bed, stream banks and/or fill and that they will not cause long-term changes in water flows that adversely modify the existing upstream or downstream stream bed/bank contours or increase sediment deposition.	
70	Spoil storage sites shall not be located within the stream, where spoil will be washed into the stream. Rock, gravel, and/or other materials shall not be imported into or moved within the bed or banks of the stream, except as otherwise addressed in the DFG Agreement.	Both
71	Fill shall be limited to the minimal amount necessary to accomplish the agreed activities. Excess fill material shall be moved off-site at Project completion.	Both
72	Silty water shall not be discharged into the stream or created with in the stream. The Permittee's ability to minimize siltation shall be the subject of preconstruction planning and feature implementation. Precautions to minimize siltation may require that the work site be isolated so that silt or other deleterious materials are not allowed to pass downstream reaches. The placement of any structure or materials in the stream for this purpose, no included in the original Project description, shall be coordinated with DFG. If it is determined that silt levels resulting from Project-related activities constitute a threat to aquatic life, activities associated with the siltation shall be halted until effective DFG-approved control devices are installed, or abatement procedures are initiated.	Both
73	During construction, the Permittee will not dump any litter or construction debris within the stream zone. All such debris and waste will be picked up daily and properly disposed of at an appropriate site.	Contractor
74	Staging and storage areas for equipment, materials, fuels, lubricants, and solvents will be located a minimum of 75 feet outside of the stream/lake channel and banks. Stationary equipment such as motors, pumps, generators, compressors and welders, located within or adjacent to the stream/lake will be positioned over drip-pans.	Contractor
75	Raw cement, concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to fish or wildlife resulting from Project-related activities, will be prevented from contaminating the soil and/or entering the "Waters of the State."	Contractor
76	Any equipment or structures placed in the active channel for water drafting, pumping or diversion shall be done in a manner that a) prevents pollution and/or siltation; b) provides flow to downstream reaches at all times to support aquatic life; c) provides flow of sufficient quality and quantity, and of appropriate temperature to support aquatic life, both above and below the diversion; and d) restores normal flow to the affected stream immediately upon completion of work at each location.	Contractor
77	Any dewatering activities shall be done in a manner that prevents pollution and/or siltation of downstream reaches. Infiltrating groundwater removed from excavations shall be pumped to a low-gradient vegetated upland area before discharging into the stream channel. Other filtration methods may be used depending upon site specific conditions. Water pumped to upland areas shall be discharged in a manner as to not cause erosion (i.e., installation of velocity dissipaters at the outfall).	Contractor
78	"Incidental take" authorization and associated compensation shall be	District

	obtained from DFG if suitable "take" avoidance measures can not be implemented.	
79	Excess material and debris shall be removed from the Project site.	Contractor
80	All construction vehicles and equipment used on site must be well maintained and checked daily for fuel, oil, and hydraulic fluid leaks or other problems that could result in spills of toxic materials.	Contractor
81	Sand and gravel bags shall be filled only with clean sand and gravel.	Contractor
82	Reduce the amount of disturbed area where possible.	Contractor
83	Prevent airborne dust from leaving the site.	Contractor
84	Control dust from all dirt stock pile areas.	Contractor
85	All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with California Vehicle Code Section 23114.	Contractor
86	Ensure that trucks and equipment leaving the site do not carry soil material onto adjacent paved roads; clean adjacent paved roads at the end of each day if visible soil material is carried from the site onto those roads.	Contractor
87	During construction, if the work site is to be temporarily dewatered by pumping, intakes shall be completely screened with wire mesh not larger than five millimeters (5 mm) to prevent California red-legged frogs and steelhead from entering the pump system. Water shall be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate.	Contractor
88	If a temporary culvert is placed in Arroyo Grande Creek, it shall be sized and placed appropriately to allow fish passage throughout construction (maintain 6 inches of depth in the culvert).	Contractor
89	County of San Luis Obispo shall confine all trash and debris in appropriate enclosed bins and dispose of the trash and debris at an approved site at least weekly.	Contractor
90	During project activities, all trash that may attract predators shall be properly contained, removed from the work sites and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas.	Contractor
91	All fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 20 meters from any riparian habitat or water body. The County shall ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the County shall ensure that the contractor has prepared a plan to allow a prompt and effective response to accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.	Contractor
92	In the event of any discoveries during construction of human remains, archeological deposits, or any other type of historic property, the Permittee shall notify the Corps' Archeology Staff within 24 hours (Steve Dibble at 213-452-3849 or John Killeen at 213-452-3861) pursuant to 36 C.F.R. section 800.13. The Permittee shall immediately suspend all work in any area where potential cultural resources are discovered, and shall not resume construction in the area surrounding the potential cultural resources until the Corps Regulatory Division re-authorizes project construction, per 36 C.F.R. section 800.13.	Both

POST CONSTRUCTION		
93	Implement revegetation (i.e., hydro seeding) as soon as possible following completion of any soil disturbing activities.	Contractor
94	Exposed ground areas that are planned to be reworked at dates greater then one month after initial grading shall be subject to dust control measures (watering, etc.) or shall be sown with a fast germinating native grass seed and watered until a temporary vegetative cover is established.	Contractor
95	All post-construction BMPs must be implemented and functioning prior to completion of the project.	Both
96	All construction-related equipment, materials and any temporary BMPs no longer needed are removed and cleaned from the site upon completion of the project.	Contractor
97	Central Coast Water Board staff must be notified if mitigations for this project are altered by the imposition of subsequent permit conditions by any local, state or federal regulatory authority. County of SLO must inform Central Coast Water Board staff of any modifications that interfere with compliance with this certification.	District
98	Visually inspect the site (and at least one reach upstream and downstream of the project) after completion of the project and for two subsequent rainy seasons to ensure that the new structures are not causing excessive erosion or other water quality problems. If the project does not cause water quality problems, contact the Central Coast Water Board staff member overseeing the project. You will be responsible for obtaining any additional permits necessary for implementing plans for restoration to prevent further water quality problems.	District
99	Mitigation planting of native trees, shrubs, herbs and grasses shall be maintained and monitored so that at least 70 percent of the planting survive after 5 years.	District
100	Trees removed must be replaced at a 3:1 for trees with 3' to 23" diameter at breast height (dbh), and 10:1 ratio for trees with 24' or greater dbh.	District
101	All disturbed soils within the Project site shall be stabilized to reduce erosion potential, both during and following construction. Temporary erosion control devices, such as straw bales, silt fencing, and sand bags, may be used, as appropriate, to prevent siltation of the stream. Any installation of non-erodible materials not described in the original Project description shall be coordinated with DFG. Coordination may include the negotiation of additional Agreement Provisions for this activity.	Both
102	The Permittee shall submit annually a Restoration Monitoring Report prepared by a qualified biologist. The Restoration Monitoring Report shall be submitted to DFG in December of each year until the performance criteria described above is met. The report shall assess the revegetation status, effectiveness of maintenance methods, whether or not the revegetation is expected to achieve the performance criteria, and shall propose additional measures that will be taken to achieve the performance criteria during the next year. Photo documentation of monitoring and maintenance for each year shall be part of the annual reports.	District
103	If the Project causes any exposed slopes or exposed areas on the stream banks, these areas shall receive an application of native seed, straw, or mulch. The seeding/mulching shall be completed as soon as possible.	Contractor
104	Where suitable vegetation cannot be reasonably expected to become established, non-erodible materials shall be used for such stabilization. Any	Both

	installation of non-erodible materials not described in the original Project description shall be coordinated with DFG. Coordination may include the negotiation of additional Agreement Provisions for this activity.	
105	Structures and associated materials not designed to withstand high seasonal flows shall be removed to areas above the high water mark before such flows occur.	Contractor
106	The Permittee shall remove and recontour any Project-constructed access corridors to the stream bottom to the original contour.	Contractor
107	Within 30 days of project completion, submit a project completion report to DFG and Regional Board that contains a summary of daily activities, monitoring and inspection observations, and problems incurred and actions taken; include properly identified post-project photos.	District
108	Submit 2 annual reports to the Regional Board complete with photos of revegetation efforts by December 31 of each monitoring year. Annual reports must quantify growth and progress of restoration and determine to what extent performance criteria have been met. All areas of the revegetation site shall be assessed for percent cover, general health and stature, and signs of reproduction. The report shall also include photographs of revegetation progress over time.	District
109	Upon completion of the least Bell's vireo surveys, the County or the Corps will submit a survey report indicating whether the species was deemed present or absent within the project area. This report may be submitted by electronic mail.	District
110	Within 90 days of the completion of construction activities, the County or the Corps shall submit a report to the Service that describes all activities that were conducted under the auspices of the project's BO, including activities that were described in the project description and required under the terms and conditions of the BO. The report must document the number of least Bell's vireos and California red-legged frogs that were found, the number that were taken during project activities, and the nature of the taking (e.g., capture, injury, etc.). It must also contain a brief discussion of any problems encountered in implementing minimization measures or terms and conditions and any other pertinent information.	District
111	After the completion of the revegetation plan, the County or Corps shall submit annual status reports (as required by DFG) that asses the condition of the vegetation, make recommendations for improvement, include information regarding the previous year's maintenance and schedule, observations, and vegetation survival counts. The report should also describe the current quality of habitat for California red-legged frogs.	District
112	Disturbed slope areas shall stabilized and revegetated with native vegetation prior to the onset of the first winter rains following construction.	Both
113	Within 45 days of completion of the project, the permittee shall submit to the Corps of Engineers photographs taken at the project site during and after construction and one copy of final "as built" drawings if the project varies from project documentation already provided.	District
114	The mitigation areas shall be monitored for a minimum of five years. Monitoring reports shall be prepared quarterly during the first year and annually thereafter.	District

COUNTY OF SAN LUIS OBISPO

MITIGATED NEGATIVE DECLARATION & NOTICE OF DETERMINATION

ENVIRONMENTAL DETERMINATION NO. ED08-116 **DATE: November 29, 2010**
Revised June 30, 2011

(ENDORSED)
FILED
SEP 13 2011
JULIE L. RODEWALD COUNTY CLERK
BY A. Gibson
DEPUTY CLERK

PROJECT/ENTITLEMENT: Public Works – Subsequent Arroyo Grande Creek at Rodriguez Road Grade Stabilization Project, 300369

APPLICANT NAME: County of San Luis Obispo, Department of Public Works
ADDRESS: County Government Center, Room 207
San Luis Obispo, CA 93408

CONTACT PERSON: Katie Drexhage, Environmental Programs Division **Telephone:** (805) 781-4469

PROPOSED USES/INTENT: This item is a request to approve the Subsequent Mitigated Negative Declaration for a project by the Department of Public Works to improve and stabilize fish passage, and protect an existing water supply pipeline crossing from being destabilized by stream bed degradation in Arroyo Grande Creek at Rodriguez Bridge. A Mitigated Negative Declaration was approved for this project on November 29, 2010. Based on new information resulting from revised plans, the County has determined that the Initial Study prepared for the Rodriguez Road Waterline Crossing Grade Stabilization Project required revision and recirculation. The Initial Study prepared for the Project and preliminary plans did not include tree removal. The revised project includes removal of 2 black cotton wood trees and 4 shining willows. Trees removed for access will be replaced at a 3:1 for trees with 3' to 23' diameter at breast height (dbh), and 10:1 ratio for trees with 24' or greater dbh.

LOCATION: The proposed project is located approximately 3,850 feet south of the Lopez Dam in southwestern San Luis Obispo County. The proposed project is within the Agriculture land use category in the Huasna-Lopez planning area, Fourth Supervisorial district.

LEAD AGENCY: County of San Luis Obispo
Department of Planning & Building
County Government Center, Room 310
San Luis Obispo, CA 93408

OTHER POTENTIAL PERMITTING AGENCIES:

ADDITIONAL INFORMATION: Additional information pertaining to this environmental determination may be obtained by contacting the above Lead Agency address or (805) 781-5600.

COUNTY "REQUEST FOR REVIEW" PERIOD ENDS AT ..... 4:30 p.m. on July 14, 2011
(Circle one) 20-DAY 30-DAY PUBLIC REVIEW PERIOD begins at the time of notice publication

Notice of Determination **State Clearinghouse No.** 2010111099

This is to advise that the San Luis Obispo County Board of Supervisors as ☒ *Lead Agency* ☐ *Responsible Agency* approved/denied the above described project on 9/13/11, and has made the following determinations regarding the above described project:

The project will not have a significant effect on the environment. A Negative Declaration was prepared for this project pursuant to the provisions of CEQA. Mitigation measures were made a condition of the approval of the project. A Statement of Overriding Considerations was not adopted for this project. Findings were made pursuant to the provisions of CEQA.

This is to certify that the Negative Declaration with comments and responses and record of project approval is available to the General Public at:

Department of Planning and Building, County of San Luis Obispo,
County Government Center, Room 310, San Luis Obispo, CA 93408-2040

Signature	Title	Date	Public Agency
	Environmental Resource Specialist	9/13/11	County of San Luis Obispo

COUNTY OF SAN LUIS OBISPO BOARD OF SUPERVISORS
AGENDA ITEM TRANSMITTAL

(1) DEPARTMENT	(2) MEETING DATE	(3) CONTACT/PHONE
Planning & Building	September 13, 2011	Katie Drexhage, Public Works Environmental Programs Division (805) 781-4469

(4) SUBJECT
Request to approve the Subsequent Mitigated Negative Declaration for the Arroyo Grande Creek at Rodriguez Road Grade Stabilization Project (ED08-116; 300369), located south of the Lopez Dam in the Huasna-Lopez Planning Area.

(5) SUMMARY OF REQUEST
This item is a request to approve the Subsequent Mitigated Negative Declaration for a project by the Department of Public Works to improve and stabilize fish passage, and protect an existing water supply pipeline crossing from being destabilized by stream bed degradation in Arroyo Grande Creek at Rodriguez Bridge. A Mitigated Negative Declaration was approved for this project on November 29, 2010. Based on new information resulting from revised plans, the County has determined that the Initial Study prepared for the Rodriguez Road Waterline Crossing Grade Stabilization Project required revision and recirculation. The Initial Study prepared for the Project and preliminary plans did not include tree removal. The revised project includes removal of 2 black cotton wood trees and 4 shining willows. Trees removed for access will be replaced at a 3:1 for trees with 3" to 23" diameter at breast height (dbh), and 10:1 ratio for trees with 24" or greater dbh.

The Subsequent Mitigated Negative Declaration identified impacts in the following issue areas: Air Quality, Biological Resources, Geology and Soils, Noise and Water. Mitigation will include best management practices for noise and air pollution, water pollution, and erosion control. Prior to the commencement of work within the stream bed and banks, permits from the U.S. Army Corps of Engineers, California Regional Water Quality Control Board, and California Department of Fish and Game must be secured. Due to the potential impact to federally listed species, formal consultation with the National Marine Fisheries Service and/or the U.S. Fish and Wildlife Service may occur.

(6) RECOMMENDED ACTION
It is recommended that the Board approve the Subsequent Mitigated Negative Declaration for a project by the Department of Public Works to improve and stabilize fish passage, and protect an existing water supply pipeline crossing from being destabilized by stream bed degradation in Arroyo Grande Creek at Rodriguez Bridge.

(7) FUNDING SOURCE(S)	(8) TOTAL FINANCIAL IMPACT	(9) ANNUAL COST	(10) BUDGETED?
Zone 3	Approx. $45,000 (Environ. permitting only)	N/A	☐ No ☒ Yes ☐ N/A

(11) OTHER AGENCY INVOLVEMENT/IMPACT (LIST): California Department of Fish and Game, Army Corps of Engineers, Regional Water Quality Control Board, National Marine Fisheries Service, U.S. Fish and Wildlife Service

(12) WILL REQUEST REQUIRE ADDITIONAL STAFF? ☒ No ☐ Yes, How Many? _____
☐ Permanent ____ ☐ Limited Term ____ ☐ Contract ____ ☐ Temporary Help ____

(13) SUPERVISOR DISTRICT(S)
☐ 1st, ☐ 2nd, ☐ 3rd, ☒ 4th, ☐ 5th, ☐ All

(14) LOCATION MAP
☒ Attached ☐ N/A

(15) Maddy Act Appointments Signed-off by Clerk of the Board
☒ N/A

(16) AGENDA PLACEMENT
☒ Consent ☐ Hearing (Time Est. _____)
☐ Presentation ☐ Board Business (Time Est._____)

(17) EXECUTED DOCUMENTS
☐ Resolutions (Orig) ☐ Contracts (Orig + 3 Copies)
☐ Ordinances (Orig) ☒ N/A
☐ Email Resolution and Ordinance to CR_Board_Clerk (in Word)

(18) NEED EXTRA EXECUTED COPIES?
☐ Number: _____ ☐ Attached ☒ N/A

(19) BUDGET ADJUSTMENT REQUIRED?
☐ Submitted ☐ 4/5th's Vote Required ☒ N/A

(20) OUTLINE AGREEMENT REQUISITION NUMBER (OAR)
N/A

(21) W-9
☒ No ☐ Yes

(22) Agenda Item History
☒ N/A Date _____

(23) ADMINISTRATIVE OFFICE REVIEW
OK Leslie Brown

Rev. 6-09

A-11
1
September 13, 2011

SAN LUIS OBISPO COUNTY
DEPARTMENT OF PLANNING AND BUILDING

September 13, 2011

TO: **Board of Supervisors**

FROM: **Katie Drexhage, Public Works Environmental Programs Division**

VIA: **Ellen Carroll, Environmental Coordinator**

SUBJECT: **Request to approve the Subsequent Mitigated Negative Declaration for the Arroyo Grande Creek at Rodriguez Road Grade Stabilization Project (ED08-116; 300369), located south the Lopez Dam in the Huasna-Lopez Planning Area.**

Recommendation

It is recommended that the Board approve the Subsequent Mitigated Negative Declaration for a project by the Department of Public Works to improve and stabilize fish passage, and protect an existing water supply pipeline crossing from being destabilized by stream bed degradation in Arroyo Grande Creek at Rodriguez Bridge.

Discussion

A Mitigated Negative Declaration was approved for this project on November 29, 2010. Based on new information resulting from revised plans, the County has determined that the Initial Study prepared for the Rodriguez Road Waterline Crossing Grade Stabilization Project (Project) required revision and recirculation. The Initial Study prepared for the Project and preliminary plans did not include tree removal. The impacts of the six trees to be removed is deemed mitigated due to the habitat enhancing quality of the Project, increase in abundance of vegetation following replanting, and the minimal amount of canopy habitat to be removed in relation to adjacent available nesting and spawning sites. Trees removed for access will be replaced at a 3:1 for trees with 3" to 23" diameter at breast height (dbh), and 10:1 ratio for trees with 24" or greater dbh.

This item is a request to approve the Subsequent Mitigated Negative Declaration for a proposal by the County Department of Public Works to improve and stabilize fish passage, and protect an existing water supply pipeline crossing from being destabilized by stream bed degradation in Arroyo Grande Creek at Rodriguez Bridge. The project would result in a total of 0.98 acre (42,688 square feet) of disturbance: approximately 0.62 acre (27,000 square feet) of temporary disturbance and approximately 0.36 acre (11,500 square feet) of permanent disturbance.

The proposed Subsequent Mitigated Negative Declaration identified impacts and mitigations in the following issue areas: Air Quality, Biological Resources, Geology and Soils, Noise and Water. Mitigation will include best management practices for noise and air pollution, water pollution, and erosion control. The project will result in enhanced habitat for federally-listed steelhead and is anticipated to have an overall positive net

benefit on biological resources in the area. Prior to the commencement of work within the stream bed and banks, permits from the U.S. Army Corps of Engineers (Corps), California Regional Water Quality Control Board, and California Department of Fish and Game must be secured. Due to the potential impact to federally listed species, formal consultation with the National Marine Fisheries Service and/or the U.S. Fish and Wildlife Service may occur.

BACKGROUND: The water pipeline was constructed in 1969. Since that time, the creek has adjusted in response to the altered hydraulic and geomorphic (rock and soil) conditions following construction of the dam, resulting in channel cutting downstream. As a result, erosion has occurred on the downstream side of the crossing and the concrete encasement surrounding the pipe has become exposed. Rodriguez Bridge is currently acting as a grade control structure, limiting future cutting upstream. Concern has been raised that future cutting downstream of the crossing may result in undermining of the pipeline encasement and ultimately result in structural failure of the pipeline.

This Project will improve the fish passage, primarily for the federally threatened southern steelhead in the Arroyo Grande Creek upstream and downstream of the Rodriguez Bridge. This crossing has been identified as an impediment to steelhead passage at low and moderate stream flows and a danger to the reliability of the water pipeline. The project consists of constructing approximately 200 lineal feet of roughened riffle rock structures (approximately 1372 cubic yards of engineered streambed material) within the streambed downstream of the pipeline.

Construction is anticipated to begin in June of 2012. It is anticipated that the project will take approximately 60 days. Work will occur during the dry season (typically June 1 – November 1). All staging will occur within County Right-of-Way. An easement in the adjacent open space parcel will be required to accommodate roughened riffle structure construction in the creek.

Other Agency Involvement/Impact

The following agencies were notified of the proposed project via project referral forms or electronic mail (e-mail) messages. All comments received are addressed in the attached Mitigated Negative Declaration.

- Agricultural Commissioner
- California Department of Fish and Game
- U.S. Army Corps of Engineers
- Regional Water Quality Control Board
- National Marine Fisheries Service
- Air Pollution Control District
- Zone 3 Advisory Group

The project will require permits or involvement from the California Department of Fish and Game, Army Corps of Engineers, Regional Water Quality Control Board, National Marine Fisheries Service, and the U.S. Fish and Wildlife Service. The proposed Mitigated Negative Declaration was noticed for public comment for a 30-day review period ending July 29, 2011. No comments were received during the comment period.

Financial Considerations

The project's estimated cost associated with environmental (e.g., CEQA and permitting) is $45,000.00. The total construction cost is estimated to be $340,000. The project is funded by Zone 3 Funds.

Results

Approval of this Subsequent Mitigated Negative Declaration will complete the environmental review phase and allow the project to move into the environmental permitting compliance phase. Completion of the project will protect a drinking water pipeline and improve federally-listed species (i.e., steelhead) passage in Arroyo Grande Creek.

Attachment – Subsequent Mitigated Negative Declaration (includes location map in Appendix A)

Subsequent Arroyo Grande Creek at Rodriguez Road Grade Stabilization Project
ED08-116 / WBS 300369

MITIGATED NEGATIVE DECLARATION, NOTICE OF DETERMINATION, & INITIAL STUDY

November 29, 2010
Revised June 30, 2011

COUNTY OF SAN LUIS OBISPO
DEPARTMENT OF PLANNING AND BUILDING
ENVIRONMENTAL & RESOURCE MANAGEMENT DIVISION

County File Number: ED08-116 (300369) SCH Number: _____

COUNTY DEPARTMENT OF PUBLIC WORKS
ARROYO GRANDE CREEK AT RODRIGUEZ ROAD
GRADE STABILIZATION PROJECT
COUNTY OF SAN LUIS OBISPO
SUBSEQUENT MITIGATED NEGATIVE DECLARATION & INITIAL STUDY

Abstract

A Mitigated Negative Declaration was approved for this project on November 29, 2010. Based on new information resulting from revised plans, the County has determined that the Initial Study prepared for the Rodriguez Road Waterline Crossing Grade Stabilization Project (Project) required revision and recirculation. The Initial Study prepared for the Project and preliminary plans did not include tree removal. Three trees on the western bank of Arroyo Grande Creek at Rodriguez Road need to be removed to allow for temporary construction access to the streambed. Three additional trees will be removed on the lower, eastern bank of the creek to allow for backwatering creating an in stream resting pool. The impacts of the six trees to be removed is deemed insignificant due to the habitat enhancing quality of the project, increase in abundance of vegetation following replanting, and the minimal amount of canopy habitat to be removed in relation to adjacent available nesting and spawning sites.

The Project is a proposal by the County of San Luis Obispo, Department of Public Works to improve, enhance and stabilize fish passage, and protect an existing Lopez Water Treatment Plant water supply pipeline crossing from being destabilized by the degradation of the steam bed in Arroyo Grande Creek at Rodriguez Bridge. The Project is located approximately 3,850 feet south of the Lopez Dam in southwestern San Luis Obispo County. The proposed project is within the Agriculture land use category in the Huasna-Lopez planning area, Fourth Supervisorial district. Comments on this document should be sent to Katie Drexhage, County Department of Public Works, County Government Center, San Luis Obispo, CA 93408.

The following persons may be contacted for additional information concerning this document:

Katie Drexhage, Environmental Programs Division
or
Thomas Trott, Project Manager
County Department of Public Works
County Government Center, Room 207
San Luis Obispo, CA 93408
(805) 781-4480

This proposed Mitigated Negative Declaration has been issued by:

7-6-2011 Ellen Carroll
Date Ellen Carroll, Environmental Coordinator
County of San Luis Obispo

The project proponent, who agrees to implement the mitigation measures for the project, is:

7-6-2011 Paavo Ogren
Date Paavo Ogren, Director of Public Works
County of San Luis Obispo

Initial Study Summary – Environmental Checklist

SAN LUIS OBISPO COUNTY DEPARTMENT OF PLANNING AND BUILDING
976 OSOS STREET • ROOM 200 • SAN LUIS OBISPO • CALIFORNIA 93408 • (805) 781-5600

Promoting the Wise Use of Land • Helping to Build Great Communities

(ver 3.3)Usiow Form

Project Title & No. County Public Works - Subsequent Initial Study for the Arroyo Grande Creek at Rodriguez Road Grade Stabilization Project ED08-116 (300369)

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED: The proposed project could have a "Potentially Significant Impact" for at least one of the environmental factors checked below. Please refer to the attached pages for discussion on mitigation measures or project revisions to either reduce these impacts to less than significant levels or require further study.

☐ Aesthetics	☒ Geology and Soils	☐ Recreation
☐ Agricultural Resources	☐ Hazards/Hazardous Materials	☐ Transportation/Circulation
☒ Air Quality	☒ Noise	☐ Wastewater
☒ Biological Resources	☐ Population/Housing	☒ Water
☐ Cultural Resources	☐ Public Services/Utilities	☐ Land Use

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation, the Environmental Coordinator finds that:

☐ The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ Although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ The proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ Although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Katie Drexhage, Environmental Resource Specialist — 6/7/11
Prepared by (Print) — Signature — Date

Ellen Carroll, Environmental Coordinator — Ellen Carroll — 7·6·2011
Reviewed by (Print) — Signature — Date

Project Environmental Analysis

The County's environmental review process incorporates all of the requirements for completing the Initial Study as required by the California Environmental Quality Act (CEQA) and the CEQA Guidelines. The Initial Study includes staff's on-site inspection of the project site and surroundings and a detailed review of the information in the file for the project. In addition, available background information is reviewed for each project. Relevant information regarding soil types and characteristics, geologic information, significant vegetation and/or wildlife resources, water availability, wastewater disposal services, existing land uses and surrounding land use categories and other information relevant to the environmental review process are evaluated for each project. Exhibit A includes the references used, as well as the agencies or groups that were contacted as a part of the Initial Study. The Environmental Division uses the checklist to summarize the results of the research accomplished during the initial environmental review of the project.

Persons, agencies or organizations interested in obtaining more information regarding the environmental review process for a project should contact the County of San Luis Obispo Environmental Division, Rm. 200, County Government Center, San Luis Obispo, CA, 93408-2040 or call (805) 781-5600.

A. PROJECT

DESCRIPTION: Request by the San Luis Obispo County Department of Public Works (County) to improve, enhance and stabilize fish passage, and protect an existing Lopez Water Treatment Plant water supply pipeline crossing in Arroyo Grande Creek at Rodriguez Bridge.

A Mitigated Negative Declaration was approved for the Rodriguez Road Waterline Crossing Grade Stabilization Project (Project) on November 29, 2010. Based on new information resulting from revised plans, the County has determined that the Initial Study prepared for the Project required revision and recirculation. The revisions are a consequence of alterations to the project detailed in the 50% plans (Appendix A). The Initial Study prepared for the Project and preliminary plans did not include tree removal. Three trees on the western bank of Arroyo Grande Creek at Rodriguez Road need to be removed to allow for temporary construction access to the streambed. Three additional trees will be removed on the lower, eastern bank of the creek to allow for backwatering creating an in stream resting pool. The revised project includes removal of 2 black cotton wood trees and 4 shining willows. Trees removed for access will be replaced at a 3:1 for trees with 3' to 23' diameter at breast height (dbh), and 10:1 ratio for trees with 24' or greater dbh.

As stated in the original Initial Study prepared for the Project, the project includes construction of a series of riffle rock structures in the streambed downstream of the existing crossing. The Project will result in the disturbance of 20,000 square feet of a 78 acre parcel and is located approximately 3,850 feet south of the Lopez Dam, approximately 6 miles east of the City of Arroyo Grande, in the Huasna-Lopez planning area in southwestern San Luis Obispo County.

Water for municipal use is diverted directly from the dam into the pipeline which terminates at a small treatment reservoir located on a tributary to the lower mainstem of Arroyo Grande Creek, prior to being delivered to end users. The water pipeline was constructed in 1969. Since that time, the creek has adjusted in response to the altered hydraulic and geomorphic conditions following construction of the dam, resulting in channel incision downstream. As a result, scour has occurred on the downstream side of the crossing and the concrete encasement surrounding the pipe has become exposed. The pipeline crossing consists of a 20-inch pipe encased in approximately 4 feet of concrete. The downstream scour has resulted in a drop of approximately 3 feet over the concrete encasement, creating a partial passage barrier to adult and juvenile steelhead. Rodriguez Bridge is currently acting as a grade control structure, limiting future incision upstream. Concern has been

raised that future incision downstream of the crossing may result in undermining of the pipeline encasement and ultimately result in structural failure of the pipeline.

This Project will improve the fish passage, primarily for the federally threatened southern steelhead (*Oncorhynchus mykiss*) in Arroyo Grande Creek upstream and downstream of the Rodriguez Street Bridge (Rodriguez Bridge). This existing crossing has been identified as an impediment to steelhead passage at low and moderate stream flows and a danger to the reliability of the water pipeline. The project consists of constructing approximately 200 lineal feet of roughened riffle rock structures (approximately ~~1315~~ 1372 cubic yards composed of engineered streambed material, weir boulders, and fabric wrapped soil pockets) within the streambed downstream of the pipeline. These structures will be designed to create pools that provide fish passage as well as protect the existing pipeline from creek scour and undermining during all creek flow conditions. The Project will protect the water pipeline encasement that is currently partially exposed and prevent additional erosion which threatens to expose the water pipeline further. The roughened riffle segments will be constructed at a steeper grade than the existing bed slope to gradually transition the elevation drop downstream of the crossing and will be shaped into a v-shaped channel to provide passage during low flows. Buried rock groins will extend into the banks at the head of each roughened riffle segment to protect against flaking. Roughened riffles and rock groins require that large immobile boulders be incorporated to maintain design slopes and provide channel bed stability during flooding events.

Arroyo Grande Creek provides habitat for federally listed species including the south central California coast steelhead, tidewater gobies (*Eucyclogobius newberryi*), and California red-legged frogs (*Rana draytonii*). Based on the results of a geomorphology study, the County is proposing to keep the pipe in place even if the line is abandoned, since the pipe acts as a grade control for the stream. Removal of the pipe, as stated in the study, would result in the transportation of a large amount of sediment downstream, a potential negative impact of the streambed all the way back to the dam, and the need for extensive streambed stabilization measures.

The Rodriguez Bridge is a County-maintained structure. The bridge allows passage over Arroyo Grande Creek to adjacent farmland and the Lopez Dam outfall structure.

The Project site will need to be dewatered to conduct pipeline stabilization activities. Sandbag and visqueen dams are to be placed directly upstream and downstream of project activities. The upstream dam would be used to direct flow into a flexible, water-tight diversion pipe that circumvents areas of work. A second diversion dam would be installed at the downstream end of the project site to help exclude surface water from re-entering the site. Fish block nets are to be installed upstream of the flexible pipe intake and downstream of the pipe outlet to prevent any fish from entering the project site. A qualified biologist will relocate any species interacting with the fish nets. A minimum 5-mm mesh screen would be used to cover the intake. Only clean, non-turbid water would be returned to the creek.

It is anticipated that the project will take approximately 60 days. Work will occur during the dry season (typically May 1 – November 1). All staging will occur within County Right-of-Way. An easement in the adjacent open space parcel will be required to accommodate roughened riffle structure construction in the creek. The project would result in approximately 0.62 acre (27,000 square feet) of impact: Approximately 0.36 acre (15,500 square feet) of temporary impact and approximately 0.26 acre (11,500 square feet) of permanent impact.

In order to access the streambed, two 10 inch black cottonwood trees (*Populus balsamifera*) and a 12 inch shining willow (*Salix lasiandra*) will be removed. Additionally, removal of three other trees will be required to accommodate construction of the downstream resting pool. These trees include one 12 inch, one 14 inch, and one 24 inch diameter willow. Three of the downed trees will be incorporated into the habitat enriching log structure within the downstream resting pool.

ASSESSOR PARCEL NUMBER(S): 047-021-017

Latitude: 35 degrees 11' 06" N Longitude: 120 degrees 29' 56" W SUPERVISORIAL DISTRICT # 4

B. EXISTING SETTING

PLANNING AREA: Huasna, Rural

LAND USE CATEGORY: Agriculture

COMBINING DESIGNATION(S): Flood Hazard

EXISTING USES: Undeveloped

TOPOGRAPHY: Nearly level

VEGETATION: Grasses

PARCEL SIZE: 76.06 acres

SURROUNDING LAND USE CATEGORIES AND USES:

North: Agriculture; undeveloped	*East:* Agriculture; undeveloped
South: Agriculture; undeveloped	*West:* Agriculture; undeveloped

C. ENVIRONMENTAL ANALYSIS

During the Initial Study process, several issues were identified as having potentially significant environmental effects (see following Initial Study). Those potentially significant items associated with the proposed uses can be minimized to less than significant levels.

COUNTY OF SAN LUIS OBISPO
INITIAL STUDY CHECKLIST

1.	**AESTHETICS** - ***Will the project:***	**Potentially Significant**	**Impact can & will be mitigated**	**Insignificant Impact**	**Not Applicable**
a)	***Create an aesthetically incompatible site open to public view?***	☐	☐	☒	☐
b)	***Introduce a use within a scenic view open to public view?***	☐	☐	☒	☐
c)	***Change the visual character of an area?***	☐	☐	☒	☐
d)	***Create glare or night lighting, which may affect surrounding areas?***	☐	☐	☐	☒
e)	***Impact unique geological or physical features?***	☐	☐	☒	☐
f)	_____ ***Other:***	☐	☐	☐	☐

Setting. The Project site is located in the upper reaches of Arroyo Grande Valley, a northeast-trending canyon that traverses the foothills of the Santa Lucia Range. Downstream of the Lopez

Dam, Arroyo Grande Creek flows along the southern perimeter of the canyon, leaving a relatively flat, slightly elevated floodplain on the north side of the canyon bottom.

The Project site is surrounded mostly by undeveloped agricultural fields. The project will not be visible from any major public roadway or silhouette against any ridgelines as viewed from public roadways. The project is considered compatible with the surrounding uses. The proposed project is within/adjacent to the Sensitive Resource Area/Highway Corridor designation. The County proposes to implement revegetation and restoration measures in order to mitigate for any loss of vegetation along the Arroyo Grande Creek and in order to prevent erosion. Neither the pipe stabilization nor the fish passage enhancement activities are expected to disrupt the surrounding aesthetics.

Due to the fact that the project is located within the streambed and allows for minimal visibility from the public roadway, the visual impact from removing six trees among the riparian corridor is minimal but may pose a potential adverse aesthetic impact in the direct project vicinity. Trees to be removed will be clearly marked on the project plans to avoid unnecessary impacts to adjacent vegetation. Replanting of impacted areas and overall project site enhancement will reduce potential visual impacts to less than significant. Therefore, temporary impacts associated with this construction are not considered significant.

Impact. The Project site is located in an area that is not visible from the road due to natural topography and vegetation. No significant visual impacts are expected to occur.

Mitigation/Conclusion. No mitigation measures in addition to the revegetation and restoration measure in the Biological Resources Section (BR-12) are necessary.

2. AGRICULTURAL RESOURCES - ***Will the project:***	**Potentially Significant**	**Impact can & will be mitigated**	**Insignificant Impact**	**Not Applicable**
a) Convert prime agricultural land to non-agricultural use?	☐	☐	☐	☒
b) Impair agricultural use of other property or result in conversion to other uses?	☐	☐	☒	☐
c) Conflict with existing zoning or Williamson Act program?	☐	☐	☒	☐
d) Other: _____	☐	☐	☐	☐

Setting. Project Elements. The following area-specific elements relate to the property's importance for agricultural production:

Land Use Category: Agriculture

State Classification: Not prime farmland, Prime Farmland if irrigated, Prime Farmland if irrigated and drained

Historic/Existing Commercial Crops: vegetable-rotational, avocado-orchard

In Agricultural Preserve? No

Under Williamson Act contract? Yes

The proposed Project is located within the Arroyo Grande Valley, a productive agricultural region. Row crops are common in the area, and a wide variety of crops are grown. Significant agricultural improvements have been made as well, including irrigation systems, barns, stalls, and other agricultural accessory structures. Staging and access to the Project site will primarily occur within County Right-of-Way along Rodriguez Street and Lopez Drive. The County will seek an easement on the adjacent open space portion of the Las Ventanas Ranch to accommodate roughened riffle structure construction in the creek. No crop areas will be impacted by the project.

Construction access will be limited to the south side of Rodriguez Bridge on the western side of Arroyo Grande Creek. This side of the creek and bridge provide sufficient clearance to allow construction equipment access to the creek bank.

Impact. The project is located in a predominantly non-agricultural area with no agricultural activities occurring on the property or immediate vicinity. No significant impacts to agricultural resources are anticipated.

Mitigation/Conclusion. No mitigation measures are necessary.

3. AIR QUALITY - ***Will the project:***	**Potentially Significant**	**Impact can & will be mitigated**	**Insignificant Impact**	**Not Applicable**
a) Violate any state or federal ambient air quality standard, or exceed air quality emission thresholds as established by County Air Pollution Control District?	☐	☒	☐	☐
b) Expose any sensitive receptor to substantial air pollutant concentrations?	☐	☐	☒	☐
c) Create or subject individuals to objectionable odors?	☐	☐	☒	☐
d) Be inconsistent with the District's Clean Air Plan?	☐	☐	☒	☐
e) Other: _____	☐	☐	☐	☐

Setting. The Air Pollution Control District (APCD) has developed the CEQA Air Quality Handbook to evaluate project specific impacts and help determine if air quality mitigation measures are needed, or if potentially significant impacts may result. To evaluate long-term emissions, cumulative effects, and establish countywide programs to reach acceptable air quality levels, a Clean Air Plan has been adopted (prepared by APCD). San Luis Obispo County is currently in non-attainment status for particulates (PM10) and ozone precursors (hydrocarbons and oxides of nitrogen). The APCD has developed a list of construction period air quality mitigation measures which are to be appropriately applied to all projects through the environmental review process.

Impact. As proposed, the project will result in the disturbance of approximately 200 lineal feet within the Arroyo Grande Creek channel. Little, if any, dust is anticipated as a result of Project activities due to the damp nature (after dewatering occurs) of the Project site. The Project may result in the creation of some construction dust, as well as short- and long-term vehicle emissions. Based on Table 1-1 of

the CEQA Air Quality Handbook, the project will result in less than 10 lbs/day of pollutants, which is below thresholds warranting any mitigation. The construction phase of the proposed project will result in additional air emissions. These emissions are typically generated by construction related dust, the operation of construction equipment, and the production and transportation of construction materials such as asphalt and concrete. Standard specifications for all county road construction contracts require that "The Contractor shall comply with all air pollution control rules, regulations, ordinances and statutes which apply to any work performed pursuant to the contract, including any air pollution control rules, regulations, ordinances and statutes specified in Section 11017 of the Government Code. Unless otherwise provided in the special provisions, material to be disposed of shall not be burned, wither inside or outside the highway right-of-way." However, because San Luis Obispo County is currently in non-attainment status for particulates (PM10) and ozone precursors (hydrocarbons and oxides of nitrogen), the Air Pollution Control District has developed a list of construction period air quality mitigation measures which are to be appropriately applied to all projects through the environmental review process. Application of standard mitigation measures should reduce air quality impacts to a less than significant level. The project is consistent with the general level of development anticipated and projected in the Clean Air Plan. No significant air quality impacts are expected to occur.

Additionally, the project will not result in the demolition of asbestos-containing materials. The Project will disturb the channel of Arroyo Grande Creek which is not expected to contain asbestos or naturally occurring asbestos (e.g., serpentine rock). The project will not create hydrocarbon contaminated soil. To prevent hydrocarbon contaminated soil, all fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 20 meters from any riparian habitat or water body. Additionally, prior to the onset of work, the County shall ensure that the contractor has prepared a plan to allow a prompt and effective response to accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

Mitigation/Conclusion.

[AQ1] During construction/ground disturbing activities, the contractor shall implement the following particulate (dust) control measures. These measures will be included in the contract special provisions. In addition, the contractor shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust off site. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the APCD prior to commencement of construction.

a. Reduce the amount of disturbed area where possible.

b. Prevent airborne dust from leaving the site.

c. Control dust from all dirt stock pile areas.

d. Implement revegetation (i.e., hydro seeding) as soon as possible following completion of any soil disturbing activities.

e. Exposed ground areas that are planned to be reworked at dates greater then one month after initial grading shall be subject to dust control measures (watering, etc.) or shall be sown with a fast germinating native grass seed and watered until a temporary vegetative cover is established.

f. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with California Vehicle Code Section 23114.

g. Ensure that trucks and equipment leaving the site do not carry soil material onto adjacent paved roads; clean adjacent paved roads at the end of each day if visible soil material is carried from the site onto those roads.

4. BIOLOGICAL RESOURCES - ***Will the project:***	**Potentially Significant**	**Impact can & will be mitigated**	**Insignificant Impact**	**Not Applicable**
a) Result in a loss of unique or special status species or their habitats?	☐	☐	☒	☐
b) Reduce the extent, diversity or quality of native or other important vegetation?	☐	☒	☐	☐
c) Impact wetland or riparian habitat?	☐	☒	☐	☐
d) Introduce barriers to movement of resident or migratory fish or wildlife species, or factors, which could hinder the normal activities of wildlife?	☐	☒	☐	☐
e) Other: _____	☐	☐	☐	☐

Setting. The Project site is approximately 3,850 feet from the base of the Lopez Reservoir in Arroyo Grande Creek. The project site is surrounded primarily by black cottonwood trees (*Populus balsamifera* ssp. *trichocarpa),* shining willow (*Salix lasiandra*), and poison oak (*Toxicodendron diversilobum*). The Project site is continuously inundated with flowing water due to upstream releases from Lopez Dam.

The California Natural Diversity Data Base (CNDDB) was accessed for information on sensitive plant, invertebrate, and wildlife species known to occur in the action area and its vicinity (CNDDB 2010). A search radius of the USGS Tar Springs Quadrangle and 8 surrounding quadrangles was used to create a list of sensitive species with the potential to occur within or near the Project site. The habitat requirements of each species were considered and can be found in Appendix B. Several other special status wildlife species are known to occur within 15 miles of the general study area vicinity, but are not expected to occur on site because the site lacks suitable habitat. For example, several species are associated with the extensive dune habitats located south and west of the study area and the coastal strand habitats (e.g., western snowy plover and brown pelican), but are not associated with the riparian habitats present in the study area.

RESULTS

The Project site provides habitat for two federally listed species: California red-legged frog (*Rana draytonii*) and steelhead trout, South Central California Coast ESU, (*Onchorynchus mykiss*). Arroyo Grande Creek is within the Oceano Hydrologic Sub-area, 331031, of the Estero Bay Hydrologic Unit, 3310, of critical habitat for steelhead (70 FR 52488 - 52627). Additionally, the creek provides habitat

for one State species of special concern: western pond turtle (*Emys marmorata*). Other State species of special concern that have the potential to use the creek for habitat include the two-striped garter snake (*Thamnophis hammondii*) and coast range newt (*Taricha torosa torosa*).

The Project site is surrounded by areas of dense vegetation which could provide cover for other sensitive wildlife (e.g., Cooper's hawk, yellow warbler). These species could be present at the Project site.

REGULATORY REQUIREMENTS
The Project will permanently impact approximately 0.4 acre of streambed and riparian corridor as a result of the installation of ~~1315~~ 1372 cubic yards (approximately 200 lineal feet) of rock for riffle structures. The Project site falls within the regulatory jurisdiction of the U.S. Army Corps of Engineers (ACOE), California Regional Water Quality Control Board (RWQCB), and California Department of Fish and Game (CDFG). Prior to commencement of work within the stream bed and banks, permits from these agencies must be secured. Additionally, due to the potential impact to federally listed species, formal consultation with the National Marine Fisheries Service (NMFS) and/or the U.S. Fish and Wildlife Service (USFWS) may occur if the ACOE deems it necessary.

Impact. The Project will result in the temporary disturbance of the Arroyo Grande Creek channel and riparian habitat within the Project site. Some willows may be trimmed in order to access either project site. The Project site will require dewatering.

Steelhead trout, California red-legged frogs, western pond turtles, coast range newts, and two-striped garter snakes and their habitats may be impacted by proposed construction activities including implementation of the creek diversion and dewatering plan, removal of the creek diversion structure, and construction of rock riffle structures. During the diversion and dewatering phase of the Project, steelhead trout may be stranded within the shrinking pools of the Project site. Removal of riparian vegetation during proposed site preparation activities including channel excavation could potentially result in harm or take of California red-legged frogs, western pond turtles, coast range newts, and two-striped garter snakes. Indirect project-related impacts to sensitive aquatic resources including discharge of pollutants (i.e. mechanical fuels, oils, sediments, etc.) into their habitat and the waters of Arroyo Grande Creek may result from grading and construction activities within the proposed project area.

The removal of three willows downstream of the waterline crossing may have the potential to adversely affect habitat conditions for *O. mykiss* as a result of canopy reduction. The reduced cover may allow water temperature to become elevated in low flow conditions. Although the removal of the three willows would reduce over head canopy, the proposed Project would lower the existing grade to create a resting pool with increased depth and consequently increased thermal buffer at the site of the willow removal. Furthermore, the created resting pool has a submerged log structure which offers multiple benefits to *O. mykiss* and other aquatic species. The log structures will create nurseries for juvenile fish and they will sort downstream flow of gravel creating ideal spawning beds. In stream wrapped soil pockets to be planted with willows and other native vegetation are located at the periphery of the resting pool and also will contribute to overall habitat enhancement by providing hydrophilic vegetation and low canopy cover to shade in stream species. Therefore the removal of willows from the Creek bank will not have a significant effect on fish species.

With the removal of six trees within the riparian corridor, there is potential for direct and indirect adverse effects due to the loss of overhead canopy for nesting birds. The direct effects would be from the loss of six trees prior to replacement and thus a slight reduction in available habitat. An indirect effect would occur as a result of construction equipment generated noise and increased human activity near any nesting sites. However, because only a selective few trees will be removed, and will

be replaced at an increased frequency, cumulative impact to nesting bird species would be less than significant. Furthermore, several components of the Project (i.e. native planted in stream soil pockets and increased bank vegetation) will cumulatively enhance the habitat value for nesting birds and other riparian and aquatic species.

Appropriate Project timing and site dewatering would minimize potential adverse effects to these species and would reduce temporary impacts to their habitats. Installation of roughened riffle reaches and pools will improve habitat (i.e., passage) for steelhead and possibly frogs. With the implementation of avoidance and minimization measures such as preconstruction surveys, relocation efforts, and dewatering activities, this project will have minimal, temporary effect on listed and sensitive species and their habitat. Riffle and pool construction as well as bank stabilization and restoration will likely have a positive net effect on biological resources in the area. No adverse cumulative effects on biological resources are anticipated to occur as a result of this project. Avoidance and minimization measures proposed will reduce the potential for the project to negatively affect critical habitat within/near the Project site.

Mitigation/Conclusion. The following mitigation measures will reduce the identified biological impacts to a level of insignificance.

[BR-1]Prior to construction, the County shall obtain all necessary permits, approvals, and authorizations from jurisdictional agencies. These may include, but may not be limited to: (1) ACOE, Section 404 Nationwide Permit 43; (2) RWQCB, Section 401 Water Quality Certification; and (3) CDFG, Section 1602 Streambed Alteration Agreement for activities within the tops of banks or outer edges of riparian canopies (whichever is furthest from the streambed) of Arroyo Grande Creek. The County shall adhere to all conditions included within these permits, approvals, and authorizations.

[BR-2] Prior to construction, all riparian and wetland areas shall be shown on all construction plans. All riparian vegetation planned for trimming shall be specified and shown on the construction plans.

[BR-3] Prior to construction, exclusionary fencing shall be erected by the contractor at the boundaries of all construction areas to avoid equipment and human intrusion into adjacent creek/wetland habitats. The fencing shall remain in place throughout construction.

[BR-4] During project activities, all trash that may attract predators shall be properly contained, removed from the work sites and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas.

[BR-5] To the extent practicable, construction activities within or adjacent to Arroyo Grande Creek shall be conducted during the dry season (May 1 through November 1). This will reduce potential impacts to aquatic and semi-aquatic species that might be using the creeks and associated vegetation as movement/dispersal corridors.

[BR-6] If determined to be necessary by the ACOE (lead federal agency), the ACOE will consult with NMFS and USFWS on behalf of the County for impacts to California red-legged frogs and steelhead. The County will adhere to all conditions included within the Biological Opinions issued for the project.

[BR-7] Before any construction activities begin on the project, a biologist shall conduct a training session for all construction personnel. The training session shall include a description of species that may be encountered during construction, the importance of these species and their habitat, the general measures that are being implemented to conserve these species as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.

[BR-8] All fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 20 meters from any riparian habitat or water body. The County shall ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the County shall ensure that the contractor has prepared a plan to allow a prompt and effective response to accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

[BR-9] Prior to site disturbance, the County shall print Best Management Practices (BMPs) on all applicable construction plans. BMPs shall be implemented prior to, during, and following construction activities. Measures shall include, but not be limited to the following:

a. Silt fencing shall be placed along the down-slope side of the construction zone.
b. A spill and clean-up kit shall be stored onsite at all times.
c. Temporary and permanent erosion and sedimentation measures shall be implemented (e.g., silt fencing, hay bales, straw wattles, etc.).

[BR-10] During construction, if the work site is to be temporarily dewatered by pumping, intakes shall be completely screened with wire mesh not larger than five millimeters (5 mm) to prevent California red-legged frogs and steelhead from entering the pump system. Water shall be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

[BR-11] If a temporary culvert is placed in Arroyo Grande Creek, it shall be sized and placed appropriately to allow fish passage throughout construction (maintain 6 inches of depth in the culvert).

[BR-12] If construction activities are conducted during the typical nesting bird season (February 15 – September 15th), preconstruction surveys shall be conducted by the County-approved biologist or County Environmental Resource Specialist prior to any construction activity or vegetation trimming to identify potential bird nesting activity, and:

a. If active nest sites of bird species protected under the Migratory Bird Treaty Act (MBTA) are observed within the vicinity of the project sites, then the projects shall be modified and/or delayed as necessary to avoid direct take of the identified nests, eggs, and/or young;
b. If active nest sites of raptors and/or bird species of special concern are observed within the vicinity of either project site, then CDFG shall be contacted to establish the appropriate buffer around the nest site. Construction activities in the buffer zone shall be prohibited until the young have fledged the nest and achieved independence; and
c. Active nests shall be documented by a qualified biologist and a letter-report shall be submitted to the County, USFWS, and CDFG, documenting project compliance with the MBTA and applicable project mitigation measures.

[BR-13] Only Service-approved biological monitors shall be authorized to conduct steelhead and/or red-legged frog relocation efforts. The biological monitor shall be present during both the installation and removal of the creek diversion structure.

[BR-14] To avoid inadvertent impacts to western pond turtle, red-legged frog, two-striped garter snake, steelhead, and nesting birds during grading and site disturbance activities, a biological monitor will conduct preconstruction surveys in Arroyo Grande Creek and adjacent areas within the Project site, conduct construction employee training prior to site disturbance and continue monitoring during grading and construction activities. In the instance a listed sensitive species is discovered, the County shall contact CDFG, NMFS, and USFWS for consultation, unless otherwise authorized under an NMFS- or USFWS-issued *Biological Opinion.* In the instance nesting birds are discovered, work shall cease until the birds have fledged and left

instance nesting birds are discovered, work shall cease until the birds have fledged and left the area, or CDFG or USFWS shall be consulted. If any swallow nests are observed, empty nests shall be removed prior to February 15, and shall continue to remove nests as they are being built to avoid impacts to active nests prior to construction.

[BR-15] A Habitat Mitigation and Monitoring Plan will be prepared and will include specific measures for restoration and revegetation of all temporarily disturbed areas. The Plan will include protection measures, standards for revegetation, a monitoring program to ensure proper implementation and maintenance of restored areas, and performance criteria to determine success. In addition to the mitigation plan, the County Department of Public Works shall prepare and implement an erosion, sedimentation, and pollution prevention plan including measures to avoid discharges into Arroyo Grande Creek.

[BR-16] Trees removed must be replaced at a 3:1 for trees with 3' to 23' diameter at breast height (dbh), and 10:1 ratio for trees with 24' or greater dbh.

5. CULTURAL RESOURCES - ***Will the project:***	**Potentially Significant**	**Impact can & will be mitigated**	**Insignificant Impact**	**Not Applicable**
a) Disturb pre-historic resources?	☐	☐	☒	☐
b) Disturb historic resources?	☐	☐	☒	☐
c) Disturb paleontological resources?	☐	☐	☒	☐
d) Other: _____	☐	☐	☐	☐

Setting. This project is located in an area historically occupied by the Obispeño Chumash. The project area is considered sensitive for cultural resources due to its close proximity to Arroyo Grande Creek. Some site types are more closely associated with water (such as long-term living or village areas) than others. Prehistoric cultural features not associated with water include many ritual areas, trails, quarry areas, rock art sites, cemeteries, hunting blinds, defensive areas, and others. There are many sites located near extinct water sources. Springs, streams, and creeks come and go over time, and creeks and rivers change their course over time.

The proposed project takes place in the active channel of Arroyo Grande Creek. A cultural resources survey of the Arroyo Grande Creek and floodplain was conducted as part of the Arroyo Grande Creek Habitat Conservation Plan development (County 2004). No cultural resources were found in the subject project area. No historic structures are present and no paleontological resources are known to exist in the area.

Impact. The project is considered culturally sensitive because of its proximity to the creek. No evidence of cultural materials was noted in the project area by archaeologists during the AG Creek HCP survey. Impacts to historical or paleontological resources are not expected. No impacts to cultural resources are anticipated.

Mitigation/Conclusion. No significant impacts to cultural resources are anticipated, and no mitigation measures are necessary.

6. GEOLOGY AND SOILS - *Will the project:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
a) *Result in exposure to or production of unstable earth conditions, such as landslides, earthquakes, liquefaction, ground failure, land subsidence or other similar hazards?*	☐	☐	☒	☒
b) *Be within a California Geological Survey "Alquist-Priolo" Earthquake Fault Zone"?*	☐	☐	☐	☒
c) *Result in soil erosion, topographic changes, loss of topsoil or unstable soil conditions from project-related improvements, such as vegetation removal, grading, excavation, or fill?*	☐	☒	☐	☐
d) *Change rates of soil absorption, or amount or direction of surface runoff?*	☐	☐	☐	☒
e) *Include structures located on expansive soils?*	☐	☐	☒	☐
f) *Change the drainage patterns where substantial on- or off-site sedimentation/ erosion or flooding may occur?*	☐	☐	☐	☒
g) *Involve activities within the 100-year flood zone?*	☐	☒	☐	☐
h) *Be inconsistent with the goals and policies of the County's Safety Element relating to Geologic and Seismic Hazards?*	☐	☐	☐	☒
i) *Preclude the future extraction of valuable mineral resources?*	☐	☐	☐	☒
j) *Other:* _____	☐	☐	☐	☐

Setting.

GEOLOGY - The following relates to the project's geologic aspects or conditions:

Topography: Nearly level

Within County's Geologic Study Area?: No

Landslide Risk Potential: Low to high

Liquefaction Potential: Low to moderate

Nearby potentially active faults?: Yes

The closest fault to Lopez Dam is the West Huasna fault. A maximum credible earthquake magnitude of 7.0 and a peak horizontal ground acceleration of 0.75g have been assigned to this fault. The Lopez Dam was seismically retrofitted between 2001 and 2003.

Shrink/Swell potential of soil: Low to high

Other notable geologic features? None

DRAINAGE – The following relates to the project's drainage aspects:

Within the 100-year Flood Hazard designation? Yes. The project is located within the County's Flood Hazard combining designation. The project as proposed will correct on-going erosion and incision. Scour protection will be placed downstream of the waterline and would protect against undermining. The Project will result in engineered streambed material for roughened riffle structures and rock for groin construction sized to be immobile during 100-year storm events. Scour protection placed downstream of the encasement would protect against undermining of the encasement.

Closest creek? Arroyo Grande Creek and an unnamed blue line tributary to Arroyo Grande Creek
Distance? Course through the subject property

Soil drainage characteristics: Very poorly drained to well drained

For areas where drainage is identified as a potential issue, the Land Use Ordinance (LUO Sec. 22.52.080 or CZLUO Sec. 23.05.042) includes a provision to prepare a drainage plan to minimize potential drainage impacts. When required, this plan would need to address measures such as: constructing on-site retention or detention basins, or installing surface water flow dissipaters. This plan would also need to show that the increased surface runoff would have no more impacts than that caused by historic flows.

SEDIMENTATION AND EROSION – The channel substrate within the vicinity of the pipeline crossing consists of a mix of fine grained material with coarse sands and gravels, and some larger cobble material. Secondary channels and areas of lower flow velocity have accumulated silt and clay. Bank material appears to be mostly fine grained. At the bridge crossing, the banks have a large component of cohesive clays. Large riprap is located near the bridge crossing, likely placed as scour protection. Gravel was observed on the agricultural road along the east bank of the creek (Waterways Consulting 2010).

The existing pipeline crossing is providing an important grade control function to over 3,500 feet of channel upstream of the crossing. Past incision has resulted in the delivery of large amounts of sediment downstream. The Project will result in engineered streambed material for roughened riffle structures and rock for groin construction sized to be immobile during 100-year storm events. Scour protection placed downstream of the encasement would protect against undermining of the encasement.

As described in the NRCS Soil Survey, the project's soil erodibility is as follows:

Soil erodibility: Low to moderate

Impact. As proposed, the Project will result in the disturbance of approximately 200 lineal feet within Arroyo Grande Creek. Repair may be warranted if an earthquake damages the pipeline and/or rock riffle structure; however, such repair activities are not anticipated to rise to a level of significance. From a soils and geology standpoint, it is expected that the installed rock riffle structures will enhance soil stability and prevent further erosion and incision of the creek bed. Some soil erosion, topographic changes, loss of topsoil or unstable soil conditions may result from Project construction activities; however, these impacts would be mitigated for and temporary in nature.

Mitigation/Conclusion. Use of Best Management Practices (see mitigation BR-10) should address any potential impacts resulting from erosion.

7. HAZARDS & HAZARDOUS MATERIALS - *Will the project:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
a) *Result in a risk of explosion or release of hazardous substances (e.g. oil, pesticides, chemicals, radiation) or exposure of people to hazardous substances?*	☐	☐	☒	☐
b) *Interfere with an emergency response or evacuation plan?*	☐	☐	☒	☐
c) *Expose people to safety risk associated with airport flight pattern?*	☐	☐	☒	☐
d) *Increase fire hazard risk or expose people or structures to high fire hazard conditions?*	☐	☐	☒	☐
e) *Create any other health hazard or potential hazard?*	☐	☐	☒	☐
f) _____ *Other:*	☐	☐	☐	☐

Setting. The project is not located in an area of known hazardous material contamination. The project is not within a high severity risk area for fire. The project is not within the Airport Review area. Portions of the subject project are within the 100-year Flood Hazard Combining designation (FH).

With regard to potential fire hazards, the Project is within the "moderate" to "very high" Fire Hazard Severity Zone(s). Based on the County's fire response time map, it will take approximately 20 or more minutes to respond to a call regarding fire or life safety. In the event of an emergency during Project activities, Rodriguez Street and Rodriguez Bridge will remain open for emergency response vehicles.

The Project is within the Lopez Dam "dam inundation" area, and is approximately 0.9 miles below the dam. The boundary of the dam inundation area is intended to show the maximum water limit line should there be a catastrophic release/failure of the upstream dam. The placement of approximately ~~1315~~ 1372 cubic yards (approximately 200 lineal feet) of rock for riffle structures is not expected to alter the flow paths within Arroyo Grande Creek. The riffle structures will be designed to allow flow though them and to withstand 100-year flood events.

The Project will temporarily introduce potentially hazardous materials into the area in the form of fuel in construction equipment. All equipment will be staged on top of the levee and no equipment will be allowed to access the creek or creek channel. A spill and clean-up kit will be stored onsite at all times. All fueling and maintenance of vehicles and other equipment and staging areas will occur at least 20 meters from any riparian habitat or water body. Prior to the onset of work, the County will ensure that the contractor has prepared a plan to allow a prompt and effective response to accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

Impact. Because there are no structures within or adjacent to the work site, the risk of a harmful incident is low.

Mitigation/Conclusion. No significant hazards or hazardous materials were identified in association with the proposed Project and no mitigation measures beyond the fuel and lubricant handling precautions listed under the Biological Resources section are necessary.

8. NOISE - ***Will the project:***	**Potentially Significant**	**Impact can & will be mitigated**	**Insignificant Impact**	**Not Applicable**
a) Expose people to noise levels that exceed the County Noise Element thresholds?	☐	☒	☐	☐
b) Generate increases in the ambient noise levels for adjoining areas?	☐	☐	☒	☐
c) Expose people to severe noise or vibration?	☐	☐	☒	☐
d) Other: _____	☐	☐	☐	☐

Setting. The Project site is located within the Arroyo Grande Creek channel in County Right-of-Way and Open Space. The Project is bordered by the Lopez Reservoir and Dam to the east and agricultural lands to the north, south and west. A couple of the fields south of the Project site are currently intensively farmed; the rest are open rangeland as are the fields north and west of the Project site. A single family residence is located on the parcel south of the Project site. Rodriguez Street and Rodriguez Bridge serve this residence. Another single family residence is located across Lopez Drive from Rodriguez Bridge.

Impact. Noise impacts resulting from construction will be of a short duration, during normal work hours, and temporary in nature. It is not expected that County noise standards will be exceeded as a result of the project. The following is one of the exceptions to the Noise Standards from the LUO: Noise sources associated with construction provided such activities do not take place before 7 a.m. or after 9 p.m. on any day except Saturday or Sunday, or before 8 a.m. or after 5 p.m. on Saturday or Sunday. The County will abide by this time-frame during all project activities. The project is not expected to generate loud noises, nor conflict with the surrounding uses.

Mitigation/Conclusion.

[N-1] Construction activities will not take place before 7 a.m. or after 9 p.m. on any day except Saturday or Sunday, or before 8 a.m. or after 5 p.m. on Saturday or Sunday.

No significant noise impacts are anticipated, and no additional mitigation measures are necessary.

9. POPULATION/HOUSING - ***Will the project:***	**Potentially Significant**	**Impact can & will be mitigated**	**Insignificant Impact**	**Not Applicable**

9. POPULATION/HOUSING - *Will the project:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
a) *Induce substantial growth in an area either directly or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure)?*	☐	☐	☐	☒
b) *Displace existing housing or people, requiring construction of replacement housing elsewhere?*	☐	☐	☐	☒
c) *Create the need for substantial new housing in the area?*	☐	☐	☐	☒
d) *Use substantial amount of fuel or energy?*	☐	☐	☐	☒
e) *Other:* _____	☐	☐	☐	☐

Setting The fish passage enhancement and pipeline stabilization activities associated with the Project are not anticipated to result in substantial growth, development, or create a need for substantial housing in the community of Arroyo Grande. The Project is not anticipated to displace existing housing or people or require construction of replacement housing. Additionally, the project will not result in substantial use of fuel or energy.

Impact. The Project will not result in a need for a significant amount of new housing, and will not displace existing housing.

Mitigation/Conclusion. No significant population and housing impacts are anticipated. No significant impacts are anticipated, and no mitigation measures are necessary.

10. PUBLIC SERVICES/UTILITIES - *Will the project have an effect upon, or result in the need for new or altered public services in any of the following areas:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
a) *Fire protection?*	☐	☐	☒	☐
b) *Police protection (e.g., Sheriff, CHP)?*	☐	☐	☐	☒
c) *Schools?*	☐	☐	☐	☒
d) *Roads?*	☐	☐	☐	☒
e) *Solid Wastes?*	☐	☐	☐	☒
f) *Other public facilities?*	☐	☐	☒	☐

10. PUBLIC SERVICES/UTILITIES - *Will the project have an effect upon, or result in the need for new or altered public services in any of the following areas:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
g) Other: _____	☐	☐	☐	☐

Setting. The project area is served by the following public services/facilities:

Police: County Sheriff Location: (Approximately 6.2 miles to the east)

Fire: CalFire Hazard Severity: Moderate to very high Response Time: More than 20 minutes

Location: Approximately 5.6 miles to the southwest

School District: Lucia Mar Unified School District.

Setting. Based on the County's fire response time map, it will take more than 20 minutes to respond to a call regarding fire or life safety. In the event of an emergency during Project activities, Rodriguez Street and Rodriguez Bridge will remain open for emergency response vehicles.

Three unknown overhead utility wires and a telephone box are located near Rodriguez Bridge. Original pipeline construction drawings show a buried telephone line beneath the creek downstream of the bridge. The Project will stabilize an existing Lopez Water Treatment Plant water supply pipeline. The project will not affect normal Lopez Water Treatment Plant operations. Equipment will be staged in County Right-of-Way during the 60-day Project time-frame, further minimizing potential impacts to public services/utilities.

Impact. No significant Project-specific impacts to utilities or public services were identified.

Mitigation/Conclusion. No significant impacts are anticipated, and no mitigation measures are necessary.

11. RECREATION - *Will the project:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
a) Increase the use or demand for parks or other recreation opportunities?	☐	☐	☐	☒
b) Affect the access to trails, parks or other recreation opportunities?	☐	☐	☒	☐
c) Other _____	☐	☐	☐	☐

Setting. The Project site is 1 mile from the County's Biddle Park. Based on the County Trails Map, the project is within reasonably close proximity to the Arroyo Grande Creek Trail. However, Project activities will not impact on this trail and no trail-related improvements are necessary.

Impact. The proposed Project will not create a significant need for additional park or recreational

resources. The Project will have no negative impacts on recreation, including users of the adjacent County Park. The Project will be temporary in nature and will not create a significant need for additional park, Natural Area, and/or recreational resources. No significant impacts to recreation are anticipated.

Mitigation/Conclusion. No significant impacts are anticipated, and no mitigation measures are necessary.

12. TRANSPORTATION/ CIRCULATION - ***Will the project:***	**Potentially Significant**	**Impact can & will be mitigated**	**Insignificant Impact**	**Not Applicable**
a) Increase vehicle trips to local or areawide circulation system?	☐	☐	☐	☒
b) Reduce existing "Levels of Service" on public roadway(s)?	☐	☐	☒	☐
c) Create unsafe conditions on public roadways (e.g., limited access, design features, sight distance, slow vehicles)?	☐	☐	☒	☐
d) Provide for adequate emergency access?	☐	☐	☒	☐
e) Result in inadequate parking capacity?	☐	☐	☐	☒
f) Result in inadequate internal traffic circulation?	☐	☐	☐	☒
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., pedestrian access, bus turnouts, bicycle racks, etc.)?	☐	☐	☐	☒
h) Result in a change in air traffic patterns that may result in substantial safety risks?	☐	☐	☐	☒
i) Other: _____	☐	☐	☐	☐

Setting. Construction vehicles and equipment may use public roads and/or Lopez Drive to access the Project site during work activities. It is not anticipated that these trips will affect traffic. Additionally, it is anticipated that passage will remain open for traffic across Rodriguez Bridge. Equipment will be staged in County Right-of-Way during the 2-month Project time-frame, further minimizing potential impacts to traffic.

Impact. Construction vehicle access will be needed temporarily during Project construction. Otherwise, the Project will have no negative effects on transportation or circulation.

Mitigation/Conclusion. No significant impacts are anticipated, and no mitigation measures are necessary.

13. **WASTEWATER** - *Will the project:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
a) *Violate waste discharge requirements or Central Coast Basin Plan criteria for wastewater systems?*	☐	☐	☐	☒
b) *Change the quality of surface or ground water (e.g., nitrogen-loading, day-lighting)?*	☐	☐	☐	☒
c) *Adversely affect community wastewater service provider?*	☐	☐	☐	☒
d) *Other:* _____	☐	☐	☐	☐

Setting/Impact. The proposed Project involves placing roughened riffle structures in a creek channel and is not anticipated to generate waste or wastewater or affect wastewater facilities and solid waste capacity. No impacts resulting from wastewater would occur as a result of the proposed project.

Mitigation/Conclusion. No significant impacts are anticipated, and no mitigation measures are necessary.

14. **WATER** - *Will the project:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
a) *Violate any water quality standards?*	☐	☒	☐	☐
b) *Discharge into surface waters or otherwise alter surface water quality (e.g., turbidity, temperature, dissolved oxygen, etc.)?*	☐	☒	☐	☐
c) *Change the quality of groundwater (e.g., saltwater intrusion, nitrogen-loading, etc.)?*	☐	☐	☐	☒
d) *Change the quantity or movement of available surface or ground water?*	☐	☒	☐	☐
e) *Adversely affect community water service provider?*	☐	☐	☐	☒
f) *Other:* _____	☐	☐	☐	☐

Setting. The historic floodplain of the Arroyo Grande Creek watershed has been reduced as the valley floor has been modified for agriculture and the flow regime has been significantly altered through well pumping, direct diversions, and the construction of Lopez Dam in 1968. Lopez Dam impounds approximately 70 square miles of the upper watershed. Releases from the dam consist of sediment starved water with high erosive potential. Historically, Lopez Lake has been managed for water supply for both municipal and agricultural users. Water for municipal use is diverted directly from the dam into the pipeline that crosses Arroyo Grande Creek at Rodriguez Bridge. The pipeline terminates at a small treatment reservoir located on a tributary to the lower mainstem of Arroyo Grande creek, prior to being delivered to end users. Water is released directly into Arroyo Grande Creek and passively recharged into local groundwater basins for agricultural users. Recent concerns over habitat quality in the lower watershed for federally listed steelhead and California red-legged frogs have resulted in an interim program to provide enough water for both groundwater recharge and maintenance of natural systems (Waterways Consulting 2010).

The Project will result in the placement of two roughened riffle reaches interspersed with two pools within the creek to aggrade the channel bed downstream of the pipeline crossing.

The topography of the project is nearly level. The Project site is within the Arroyo Grande Creek and an unnamed blue line tributary to Arroyo Grande Creek which courses through the property. As described in the NRCS Soil Survey, the soil surface is considered to have low erodibility. The northern portion of the subject property is within the Pismo Creek groundwater basin.

Dewatering activities will occur as a part of the Project. No turbid water will be allowed to return to the channel.

Impact. The Project could result in water quality impacts through dewatering activities, the discharge of sediments during construction, or the accidental spill of petroleum based fuels or lubricants. The Project will not affect groundwater levels. Dewatering at the site would be localized and return of pumped water to the stream would prevent any decrease in groundwater in Arroyo Grande Valley.

Mitigation/Conclusion. Degradation to water quality within San Luis Obispo Creek before and during construction activities would be mitigated for by implementation of a dewatering and diversion plan, mitigation and monitoring plan, and a sedimentation, erosion, and pollutant control plan. The County is also required to obtain a permit from the Regional Water Quality Control Board prior to commencement of site disturbance (Mitigation Measures BR-1, BR-8, BR-9, BR-10, and BR-12).

Based on the discussion above and implementation of all recommended mitigation measures, all on-site, off-site, direct, in-direct, and cumulative hydrology and water quality impacts associated with the proposed Project are less than significant.

15. LAND USE - ***Will the project:***	**Inconsistent**	**Potentially Inconsistent**	**Consistent**	**Not Applicable**
a) Be potentially inconsistent with land use, policy/regulation (e.g., general plan [county land use element and ordinance], local coastal plan, specific plan, Clean Air Plan, etc.) adopted to avoid or mitigate for environmental effects?	☐	☐	☒	☐
b) Be potentially inconsistent with any habitat or community conservation plan?	☐	☐	☒	☐

15. LAND USE - *Will the project:*	Inconsistent	Potentially Inconsistent	Consistent	Not Applicable
c) *Be potentially inconsistent with adopted agency environmental plans or policies with jurisdiction over the project?*	☐	☐	☒	☐
d) *Be potentially incompatible with surrounding land uses?*	☐	☐	☒	☐
e) *Other:* _____	☐	☐	☐	☐

Setting/Impact. Surrounding uses are identified on Page 3 of the Initial Study. The proposed Project was reviewed for consistency with policy and/or regulatory documents relating to the environment and appropriate land use (e.g., County Land Use Ordinance, Local Coastal Plan, etc.). Referrals were sent to outside agencies to review for policy consistencies (e.g., APCD for Clean Air Plan). The project was found to be consistent with these documents (refer also to Exhibit A on reference documents used).

The Project is within a proposed Habitat Conservation Plan (HCP) area. The proposed HCP will address water releases from Lopez Dam and the effect of those releases on federally listed species within Arroyo Grande Creek. The Project will not affect the Habitat Conservation Planning effort. Federally listed species habitat improvements associated with this Project will occur independently of and not impair the on-going HCP process.

Mitigation/Conclusion. No inconsistencies were identified and therefore no additional measures above what will already be required were determined necessary.

16. MANDATORY FINDINGS OF SIGNIFICANCE - *Will the project:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
a) *Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*	☐	☒	☐	☐
b) *Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)*	☐	☐	☒	☐

c) *Have environmental effects which will cause substantial adverse effects on*

human beings, either directly or indirectly? ☐ ☐ ☒ ☐

For further information on CEQA or the county's environmental review process, please visit the County's web site at "www.sloplanning.org" under "Environmental Information", or the California Environmental Resources Evaluation System at: http://www.ceres.ca.gov/topic/env_law/ceqa/guidelines for information about the California Environmental Quality Act.

Exhibit A - Initial Study References and Agency Contacts

The County Planning or Environmental Divisions have contacted various agencies for their comments on the proposed project. With respect to the subject application, the following have been contacted (marked with an ☒) and when a response was made, it is either attached or in the application file:

Contacted	Agency	Response
☐	County Public Works Department	**Not Applicable**
☐	County Environmental Health Division	**Not Applicable**
☒	County Agricultural Commissioner's Office	**In File****
☐	County Airport Manager	**Not Applicable**
☐	Airport Land Use Commission	**Not Applicable**
☒	Air Pollution Control District	**None**
☐	County Sheriff's Department	**Not Applicable**
☒	Regional Water Quality Control Board	**None**
☐	CA Coastal Commission	**Not Applicable**
☒	CA Department of Fish and Game	**None**
☐	CA Department of Forestry (Cal Fire)	**Not Applicable**
☐	CA Department of Transportation	**Not Applicable**
☐	Community Service District	**Not Applicable**
☒	U.S Army Corps of Engineers	**None**
☒	Zone 3 Advisory Committee	**None**

*** "No comment" or "No concerns"-type responses are usually not attached*

The following checked ("☒") reference materials have been used in the environmental review for the proposed project and are hereby incorporated by reference into the Initial Study. The following information is available at the County Planning and Building Department.

☒ Project File for the Subject Application

County documents

- ☐ Airport Land Use Plans
- ☐ Annual Resource Summary Report
- ☐ Building and Construction Ordinance
- ☐ Coastal Policies
- ☐ Framework for Planning (Coastal & Inland)
- ☒ General Plan (Inland & Coastal), including all maps & elements; more pertinent elements considered include:
  - ☒ Agriculture & Open Space Element
  - ☒ Energy Element
  - ☒ Environment Plan (Conservation, Historic and Esthetic Elements)
  - ☒ Housing Element
  - ☒ Noise Element
  - ☒ Parks & Recreation Element
  - ☒ Safety Element
- ☒ Land Use Ordinance
- ☐ Real Property Division Ordinance
- ☐ Trails Plan
- ☐ Solid Waste Management Plan

☐ Area Plan
and Update EIR
☐ Circulation Study

Other documents

☒ Archaeological Resources Map
☒ Area of Critical Concerns Map
☒ Areas of Special Biological Importance Map
☒ California Natural Species Diversity Database
☒ Clean Air Plan
☒ Fire Hazard Severity Map
☒ Flood Hazard Maps
☒ Natural Resources Conservation Service Soil Survey for SLO County
☒ Regional Transportation Plan
☒ Uniform Fire Code
☒ Water Quality Control Plan (Central Coast Basin – Region 3)
☒ GIS mapping layers (e.g., habitat, streams, contours, etc.)

☐ Other ____

In addition, the following project specific information and/or reference materials have been considered as a part of the Initial Study:

California Natural Diversity Database (CNDDB), Biogeographic Data Branch, Department of Fish and Game. Version 3.1.0. September 5, 2010.

County of San Luis Obispo. 2004. Arroyo Grande Creek Habitat Conservation Plan Draft Initial Study. 59 pp.

Waterways Consulting. March 8, 2010. Technical Recommendations Memorandum. Prepared for Diana Haines, San Luis Obispo County, Public Works Department.

Exhibit B - Mitigation Summary Table

AIR QUALITY

[AQ1] During construction/ground disturbing activities, the contractor shall implement the following particulate (dust) control measures. These measures will be included in the contract special provisions. In addition, the contractor shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust off site. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the APCD prior to commencement of construction.

a. Reduce the amount of disturbed area where possible.

b. Prevent airborne dust from leaving the site.

c. Control dust from all dirt stock pile areas.

d. Implement revegetation (i.e., hydro seeding) as soon as possible following completion of any soil disturbing activities.

e. Exposed ground areas that are planned to be reworked at dates greater then one month after initial grading shall be subject to dust control measures (watering, etc.) or shall be sown with a fast germinating native grass seed and watered until a temporary vegetative cover is established.

f. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with California Vehicle Code Section 23114.

g. Ensure that trucks and equipment leaving the site do not carry soil material onto adjacent paved roads; clean adjacent paved roads at the end of each day if visible soil material is carried from the site onto those roads.

BIOLOGICAL RESOURCES

[BR-1] Prior to construction, the County shall obtain all necessary permits, approvals, and authorizations from jurisdictional agencies. These may include, but may not be limited to: (1) Army Corps of Engineers, Section 404 Nationwide Permit 43; (2) Regional Water Quality Control Board, Section 401 Water Quality Certification; and (3) the California Department of Fish and Game (CDFG), Section 1602 Streambed Alteration Agreement for activities within the tops of banks or outer edges of riparian canopies (whichever is furthest from the streambed) of Arroyo Grande Creek. The County shall adhere to all conditions included within these permits, approvals, and authorizations.

[BR-2] Prior to construction, all riparian and wetland areas shall be shown on all construction plans. All riparian vegetation planned for trimming shall be specified and shown on the construction plans.

[BR-3] Prior to construction, exclusionary fencing shall be erected by the contractor at the boundaries of all construction areas to avoid equipment and human intrusion into adjacent creek/wetland habitats. The fencing shall remain in place throughout construction.

[BR-4] During project activities, all trash that may attract predators shall be properly contained, removed from the work sites and disposed of regularly. Following construction, all trash and

construction debris shall be removed from work areas.

[BR-5] To the extent practicable, construction activities within or adjacent to Arroyo Grande Creek shall be conducted during the dry season (May 1 through November 1). This will reduce potential impacts to aquatic and semi-aquatic species that might be using the creeks and associated vegetation as movement/dispersal corridors.

[BR-6] If determined to be necessary by the Corps (lead federal agency), the Corps will consult with NMFS and USFWS on behalf of the County for impacts to California red-legged frogs and steelhead. The County will adhere to all conditions included within the Biological Opinions issued for the project.

[BR-7] Before any construction activities begin on the project, a biologist shall conduct a training session for all construction personnel. The training session shall include a description of species that may be encountered during construction, the importance of these species and their habitat, the general measures that are being implemented to conserve these species as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.

[BR-8] All fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 20 meters from any riparian habitat or water body. The County shall ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the County shall ensure that the contractor has prepared a plan to allow a prompt and effective response to accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

[BR-9] Prior to site disturbance, the County shall print Best Management Practices (BMPs) on all applicable construction plans. BMPs shall be implemented prior to, during, and following construction activities. Measures shall include, but not be limited to the following:

a. Silt fencing shall be placed along the down-slope side of the construction zone.
b. A spill and clean-up kit shall be stored onsite at all times.
c. Temporary and permanent erosion and sedimentation measures shall be implemented (e.g., silt fencing, hay bales, straw wattles, etc.).

[BR-10] During construction, if the work site is to be temporarily dewatered by pumping, intakes shall be completely screened with wire mesh not larger than five millimeters (5 mm) to prevent California red-legged frogs and steelhead from entering the pump system. Water shall be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

[BR-11] If a temporary culvert is placed in Arroyo Grande Creek, it shall be sized and placed appropriately to allow fish passage throughout construction (maintain 6 inches of depth in the culvert).

[BR-12] If construction activities are conducted during the typical nesting bird season (February 15 – September 15), preconstruction surveys shall be conducted by the County-approved biologist or County Environmental Resource Specialist prior to any construction activity or vegetation trimming to identify potential bird nesting activity, and:

a. If active nest sites of bird species protected under the Migratory Bird Treaty Act (MBTA) are observed within the vicinity of the project sites, then the projects shall be modified and/or delayed as necessary to avoid direct take of the identified nests, eggs, and/or young;
b. If active nest sites of raptors and/or bird species of special concern are observed within

the vicinity of either project site, then CDFG shall be contacted to establish the appropriate buffer around the nest site. Construction activities in the buffer zone shall be prohibited until the young have fledged the nest and achieved independence; and

c. Active nests shall be documented by a qualified biologist and a letter-report shall be submitted to the County, USFWS, and CDFG, documenting project compliance with the MBTA and applicable project mitigation measures.

[BR-13] Only Service-approved biological monitors shall be authorized to conduct steelhead and/or red-legged frog relocation efforts. The biological monitor shall be present during both the installation and removal of the creek diversion structure.

[BR-14] To avoid inadvertent impacts to western pond turtle, red-legged frog, two-striped garter snake, steelhead, and nesting birds during grading and site disturbance activities, a biological monitor will conduct preconstruction surveys in Arroyo Grande Creek and adjacent areas within the Project site, conduct construction employee training prior to site disturbance and continue monitoring during grading and construction activities. In the instance a listed sensitive species is discovered, the County shall contact CDFG, NMFS, and USFWS for consultation, unless otherwise authorized under an NMFS- or USFWS-issued *Biological Opinion*. In the instance nesting birds are discovered, work shall cease until the birds have fledged and left the area, or CDFG or USFWS shall be consulted. If any swallow nests are observed, empty nests shall be removed prior to February 15, and shall continue to remove nests as they are being built to avoid impacts to active nests prior to construction.

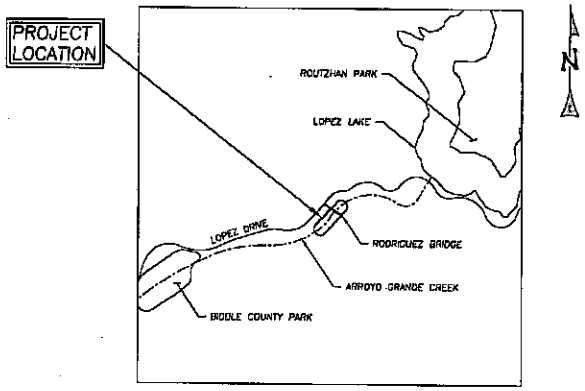
[BR-15] A Habitat Mitigation and Monitoring Plan will be prepared and will include specific measures for restoration and revegetation of all temporarily disturbed areas. The Plan will include protection measures, standards for revegetation, a monitoring program to ensure proper implementation and maintenance of restored areas, and performance criteria to determine success. In addition to the mitigation plan, the County Department of Public Works shall prepare and implement an erosion, sedimentation, and pollution prevention plan including measures to avoid discharges into Arroyo Grande Creek.

[BR-16] Trees removed must be replaced at a 3:1 for trees with 3' to 23' diameter at breast height (dbh), and 10:1 ratio for trees with 24' or greater dbh.

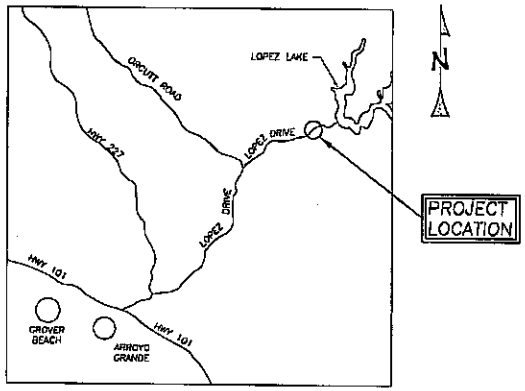
NOISE

[N-1] Construction activities will not take place before 7 a.m. or after 9 p.m. on any day except Saturday or Sunday, or before 8 a.m. or after 5 p.m. on Saturday or Sunday.

RODRIGUEZ CROSSING
FISH PASSAGE IMPROVEMENTS
50% DESIGN SUBMITTAL



VICINITY MAP
N.T.S. (GOOGLE)



REGIONAL MAP
N.T.S. (GOOGLE)

SHEET INDEX

C1	COVER SHEET
C2	SITE PLAN AND PROFILE
C3	SECTIONS
C4	DETAILS
C5	ACCESS, EROSION CONTROL AND DEWATERING PLAN
C6	NOTES

TREE LEGEND

C = COTTONWOOD
O = OAK
S = SYCAMORE
W = WILLOW

TREES TO BE REMOVED

(2) 12" WILLOW
(1) 14" WILLOW
(1) 24" WILLOW
(2) 10" COTTONWOOD

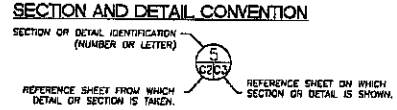
ABBREVIATIONS

AVG.	AVERAGE
CC	CONCRETE
CY	CUBIC YARDS
DIA.	DIAMETER
E	EXISTING
E.G.	EXISTING GROUND
ELEV.	ELEVATION
F.G.	FINISHED GRADE
FT.	FEET
INV.	INVERT
N	NEW
N.T.S.	NOT TO SCALE
RSP	ROCK SLOPE PROTECTION
SPK	SPIKE
SQ.FT.	SQUARE FOOT
T.B.D.	TO BE DETERMINED
TYP	TYPICAL
UNK	UNKOWN
WSE	WATER SURFACE ELEVATION

PROJECT DESCRIPTION

THESE PLANS PROVIDE DETAILS FOR FISH PASSAGE IMPROVEMENTS AND CHANNEL BED STABILIZATION AT A WATER SUPPLY PIPELINE CROSSING ON ARROYO GRANDE CREEK AT RODRIGUEZ BRIDGE. IMPROVEMENTS CONSIST OF CONSTRUCTING A ROUGHENED CHANNEL AND ASSOCIATED POOLS TO ELIMINATE AN APPROXIMATE 3 FOOT DROP ON THE DOWNSTREAM SIDE OF A CONCRETE ENCASED WATER SUPPLY PIPELINE. LARGE WOODY DEBRIS WILL BE PLACED WITHIN THE ROUGHENED CHANNEL TO ADD HABITAT COMPLEXITY. SMALL AREAS PROTECTED WITH BIODEGRADABLE EROSION CONTROL FABRIC WILL BE INCORPORATED WITHIN THE ROUGHENED CHANNEL ENGINEERED STREAMBED MATERIAL TO LIMIT ROCK PLACEMENT AND PROVIDE AREAS FOR REVEGETATION.

SECTION AND DETAIL CONVENTION



WATERWAYS CONSULTING INC.
4038 SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9291 // FAX:(866)919-6847
WWW.WATWAYS.COM

PRELIMINARY
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
SAN LUIS OBISPO COUNTY
PUBLIC WORKS
DEPARTMENT

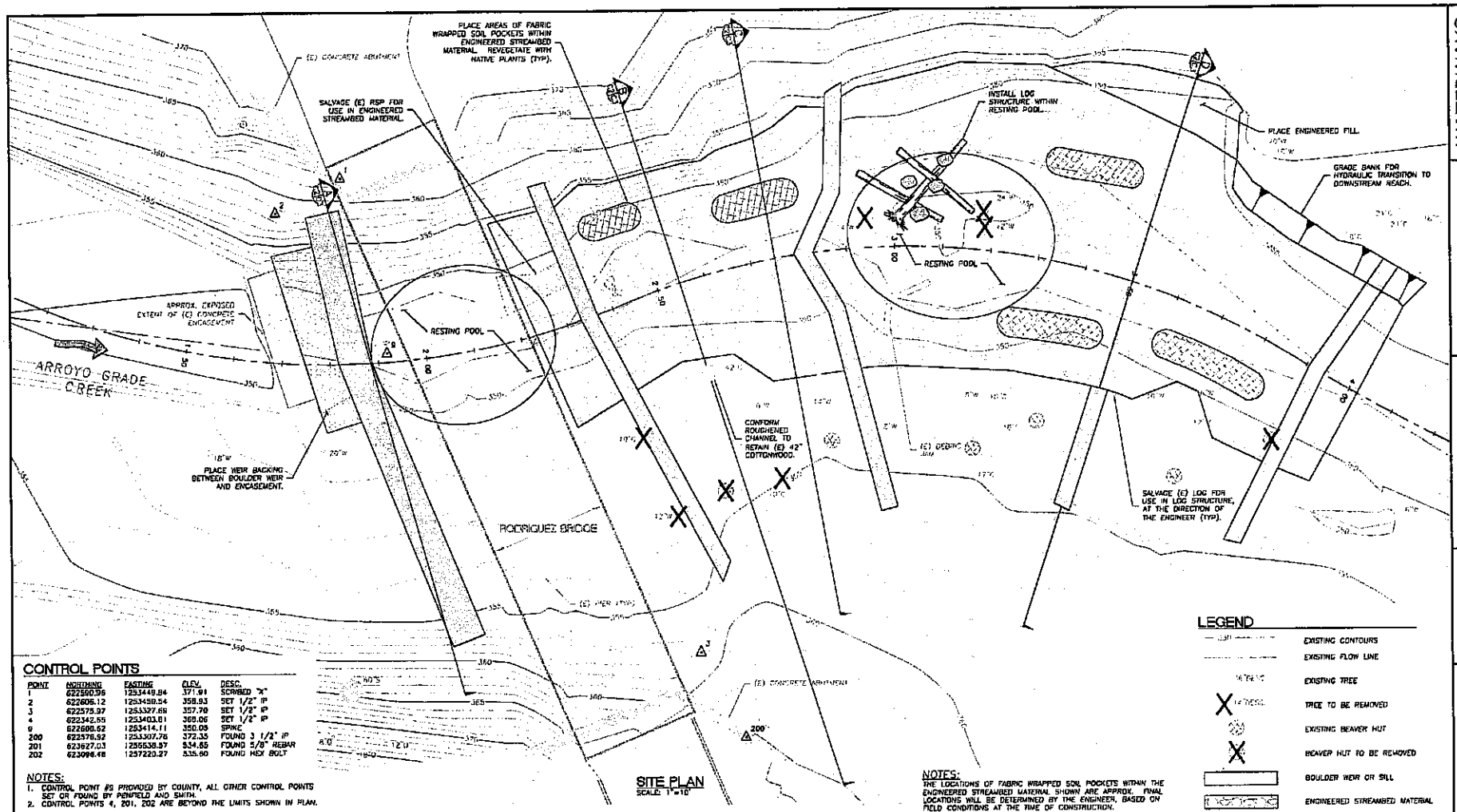
COVER SHEET

RODRIGUEZ CROSSING
FISH PASSAGE
IMPROVEMENTS
50% SUBMITTAL

DESIGNED BY: -
DRAWN BY: -
CHECKED BY: M.W.W.
DATE: 04/18/11
JOB NO.: 09-040

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

C1 | 1 OF 6



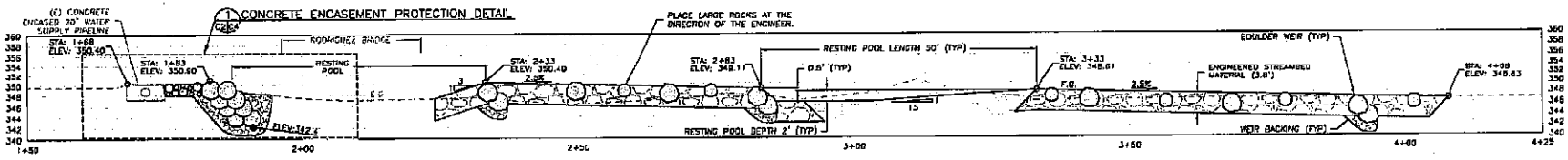
CONTROL POINTS

POINT	NORTHING	EASTING	ELEV.	DESC.
1	622590.96	1253449.84	371.91	SCRIBED "X"
2	622606.12	1253459.54	358.93	SET 1/2" IP
3	622575.97	1253327.69	357.70	SET 1/2" IP
4	622342.55	1253403.81	368.06	SET 1/2" IP
9	622600.52	1253414.11	350.09	SPIKE
200	622576.52	1253307.78	372.35	FOUND 3 1/2" IP
201	623627.03	1256538.57	534.85	FOUND 5/8" REBAR
202	623096.48	1257220.27	535.60	FOUND HEX BOLT

NOTES:
1. CONTROL POINT #9 PROVIDED BY COUNTY. ALL OTHER CONTROL POINTS SET OR FOUND BY PENFIELD AND SMITH.
2. CONTROL POINTS 4, 201, 202 ARE BEYOND THE LIMITS SHOWN IN PLAN.

SITE PLAN
SCALE: 1"=10'

NOTES:
THE LOCATIONS OF FABRIC WRAPPED SOIL POCKETS WITHIN THE ENGINEERED STREAMBED MATERIAL SHOWN ARE APPROX. FINAL LOCATIONS WILL BE DETERMINED BY THE ENGINEER, BASED ON FIELD CONDITIONS AT THE TIME OF CONSTRUCTION.



CHANNEL PROFILE
SCALE: 1"=10'

WATERWAYS CONSULTING INC.
4228 SWIFT ST.
SANTA CRUZ, CA 95062
PH(831)421-2891 // FAX(866)819-8847
WWW.WATWAYS.COM

PRELIMINARY
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
SAN LUIS OBISPO COUNTY
PUBLIC WORKS
DEPARTMENT

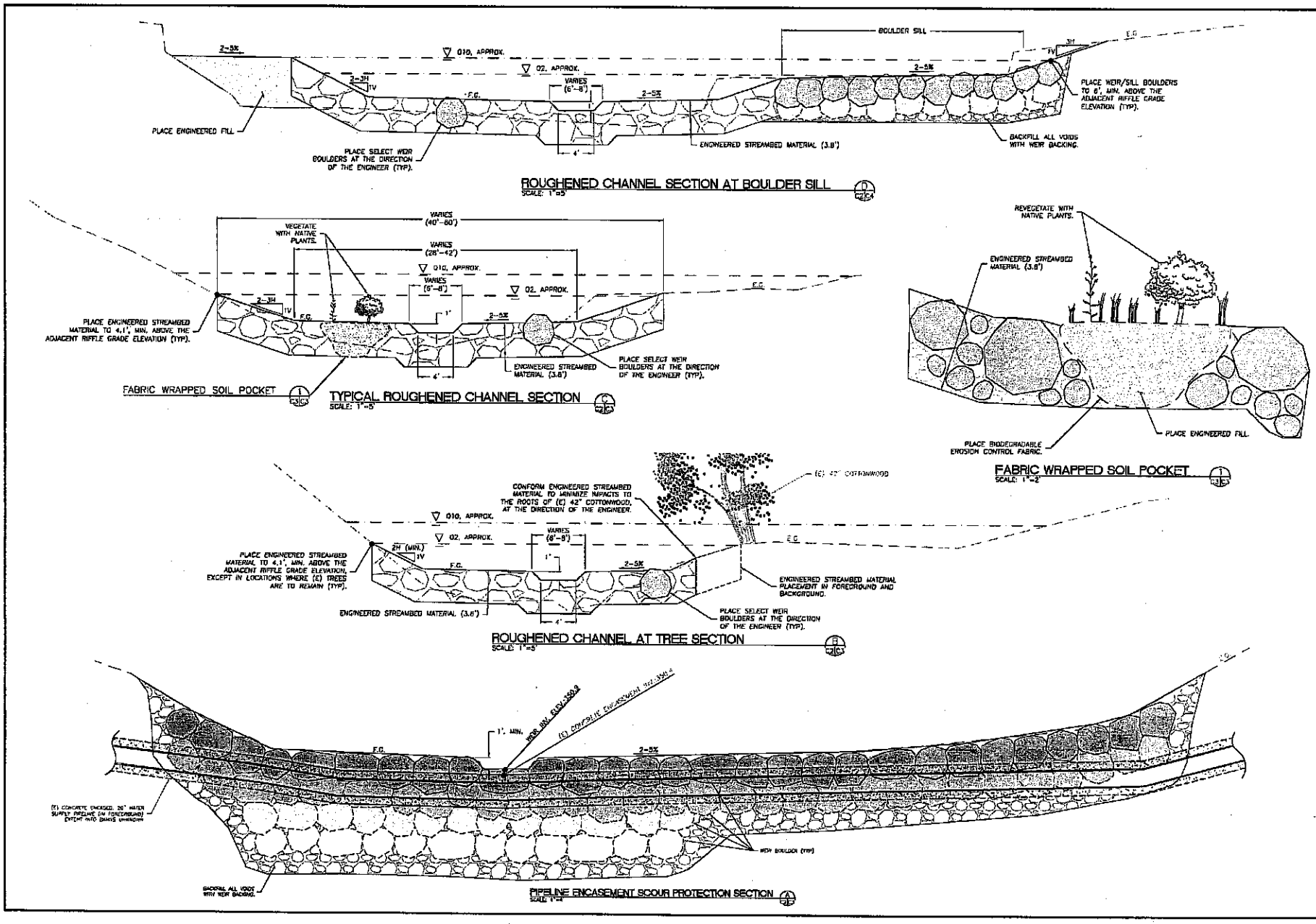
SITE PLAN AND PROFILE

RODRIGUEZ CROSSING
FISH PASSAGE
IMPROVEMENTS
50% SUBMITTAL

DESIGNED BY: *
DRAWN BY: *
CHECKED BY: M.W.W.
DATE: 04/18/11
JOB NO.: 09-040

BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES FOR REDUCED PLOTS
0 1"

C2 | 2 OF 6



WATERWAYS CONSULTING INC.
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WWW.WATWAYS.COM

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PREPARED AT THE REQUEST OF:
SAN LUIS OBISPO COUNTY
PUBLIC WORKS
DEPARTMENT

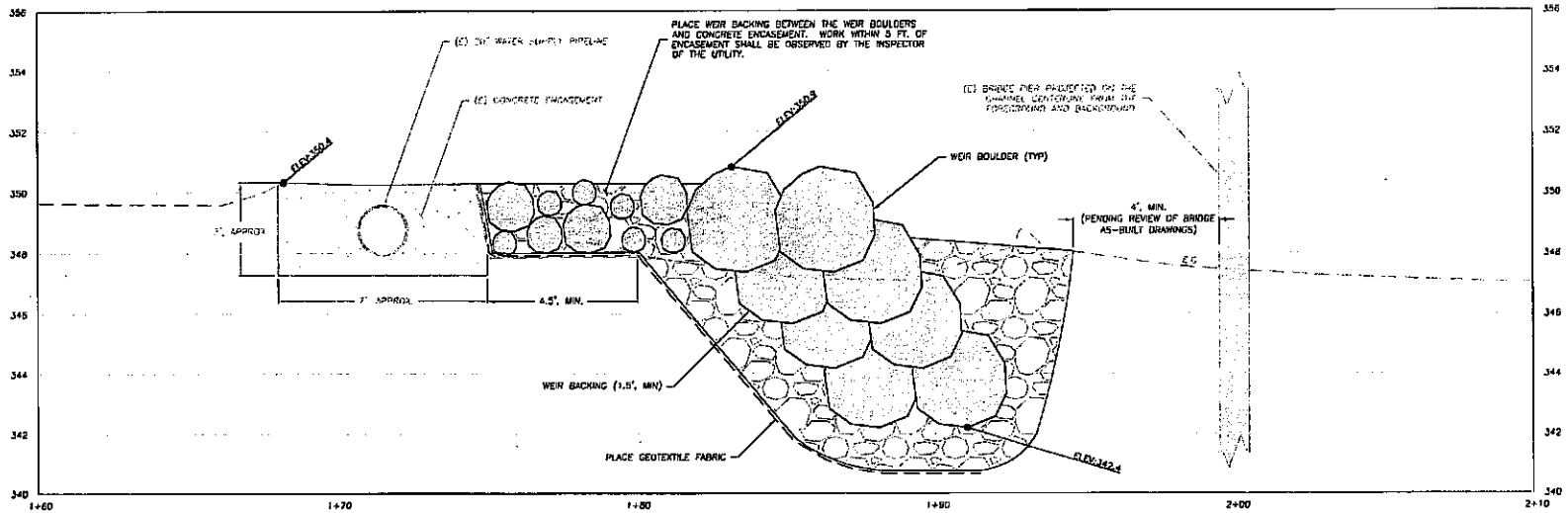
SECTIONS

RODRIGUEZ CROSSING
FISH PASSAGE
IMPROVEMENTS
50% SUBMITTAL

DESIGNED BY:
DRAWN BY:
CHECKED BY: M.W.W.
DATE: 04/18/11
JOB NO.: 09-040

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

C3 | 3 OF 6



CONCRETE ENCASEMENT PROTECTION DETAIL (1 / C2,C4)
SCALE: 1"=2'

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4018 SWIFT ST.
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DETAILS

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0 1"

C4 | 4 OF 6

EROSION CONTROL NOTES

1. THE EROSION CONTROL PLAN SHOWN IS INTENDED FOR THE SUMMER CONSTRUCTION SEASON (APRIL 15TH TO OCTOBER 15TH). IF THE DRAINAGE FEATURES SHOWN ON THESE DRAWINGS ARE NOT COMPLETED AND DISTURBED AREAS STABILIZED BY OCTOBER 1ST, CONSULT THE ENGINEER FOR ADDITIONAL RAINY SEASON EROSION CONTROL MEASURES.

2. PRIOR TO COMMENCING WORK, AREAS TO REMAIN UNDISTURBED SHALL BE PROTECTED WITH ESA FENCING, AS SHOWN ON THE DRAWINGS. ADDITIONAL FENCING MAY BE REQUIRED AT THE DIRECTION OF THE ENGINEER.

3. CONTRACTOR SHALL UTILIZE ONLY THE APPROVED HAUL ROADS, AS SHOWN. THE PORTION OF THE CHANNEL TO BE DISTURBED MAY BE UTILIZED, AS NECESSARY, FOR ADDITIONAL ACCESS.

4. BETWEEN OCTOBER 15 AND APRIL 15, EXPOSED SOIL SHALL BE PROTECTED FROM EROSION AT ALL TIMES. DURING CONSTRUCTION, SUCH PROTECTION MAY CONSIST OF MULCHING AND/OR PLANTING OF NATIVE VEGETATION OF ADEQUATE DENSITY. BEFORE COMPLETION OF THE PROJECT, ANY EXPOSED SOIL ON DISTURBED SLOPES SHALL BE PERMANENTLY PROTECTED FROM EROSION.

5. A STANDBY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON (OCTOBER 15 THROUGH APRIL 15). NECESSARY MATERIALS SHALL BE AVAILABLE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES.

6. CONSTRUCT TEMPORARY EROSION CONTROL MEASURES AS SHOWN ON THIS PLAN AND/OR AS DIRECTED BY THE ENGINEER TO CONTROL DRAINAGE WHICH HAS BEEN AFFECTED BY GRADING AND/OR TRENCHING OPERATIONS.

7. THE CONTRACTOR SHALL INCORPORATE ADEQUATE DRAINAGE PROCEDURES DURING THE CONSTRUCTION PROCESS TO ELIMINATE EXCESSIVE PONDING AND EROSION.

8. CONSTRUCT AND MAINTAIN EROSION CONTROL MEASURES TO PREVENT THE DISCHARGE OF EARTHEN MATERIALS TO THE CREEK FROM DISTURBED AREAS UNDER CONSTRUCTION AND FROM COMPLETED CONSTRUCTION AREAS.

9. INSTALL ALL PROTECTIVE DEVICES TO BE INSTALLED SHALL BE IN PLACE AT THE END OF EACH WORK DAY WHEN THE FIVE-DAY RAIN PROBABILITY EXCEEDS 50 PERCENT.

10. AFTER A RAINSTORM, ALL SILT AND DEBRIS SHALL BE REMOVED FROM CHECK BERMS AND SEDIMENTATION BASIN AND THE BASIN PUMPED DRY.

11. THE EROSION CONTROL DEVICES ON THIS PLAN ARE A SCHEMATIC REPRESENTATION OF WHAT MAY BE REQUIRED. EROSION CONTROL DEVICES MAY BE RELOCATED, DELETED, OR ADDITIONAL ITEMS MAY BE REQUIRED DEPENDING ON THE ACTUAL SOIL CONDITIONS ENCOUNTERED, AT THE DISCRETION OF THE ENGINEER.

12. THE CONTRACTOR IS RESPONSIBLE TO KEEP IN FORCE ALL EROSION CONTROL DEVICES AND TO MODIFY THOSE DEVICES AS SITE PROGRESS DICTATES.

13. THE CONTRACTOR SHALL MONITOR THE EROSION CONTROL DEVICES DURING STORMS AND MODIFY THEM IN ORDER TO PREVENT PROGRESS OF ANY ONGOING EROSION.

14. THE CONTRACTOR IS RESPONSIBLE FOR CLEANING ANY EROSION OR DEBRIS SPILLING ONTO A PUBLIC STREET.

15. THE CONTRACTOR SHALL CONTACT THE ENGINEER IN THE EVENT THAT THE EROSION CONTROL PLAN AS DESIGNED REQUIRES ANY SUBSTANTIAL REVISIONS.

16. CONTRACTOR SHALL BE FAMILIAR WITH THE CONDITIONS OF APPROVAL OF ALL REQUIRED PROJECT PERMITS AND SHALL IMPLEMENT ALL REQUIRED BMP'S PRIOR TO COMMENCING GRADING OPERATIONS.

ACCESS AND STAGING AREA NOTES

1. UTILIZE ONLY THE APPROVED ACCESS POINTS AND STAGING AREAS, AS SHOWN ON THE DRAWINGS.

2. ACCESS PLAN IS SCHEMATIC. CONTRACTOR SHALL SUBMIT A SITE ACCESS PLAN FOR APPROVAL BY THE ENGINEER.

3. THE DOWNSLOPE PERIMETER OF STAGING OR STOCKPILE AREAS SHALL BE CONTAINED WITH SILT FENCE.

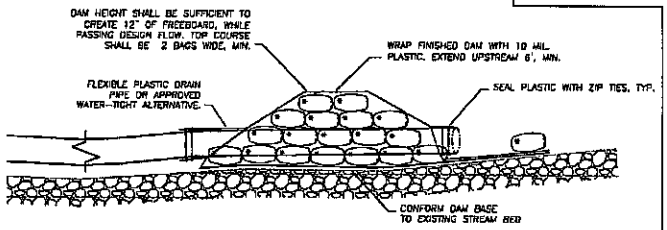
4. ALL EQUIPMENT AND MATERIALS SHALL BE STORED, MAINTAINED AND REFUELED IN A DESIGNATED PORTION OF THE STAGING AREA.

DIVERSION NOTES

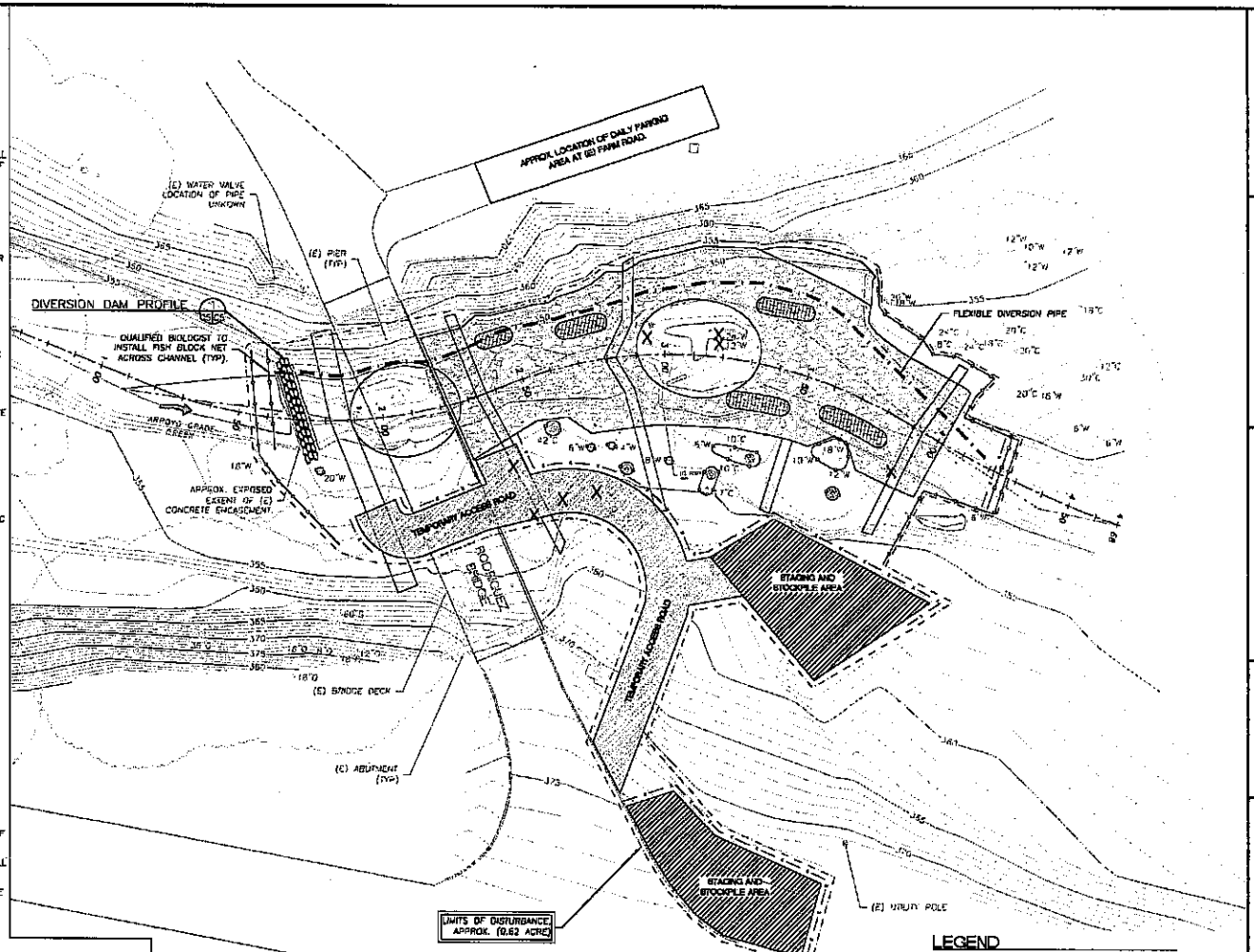
1. DIVERSION PLAN SHOWN IS SCHEMATIC. CONTRACTOR SHALL SUBMIT A SITE DIVERSION/DEWATERING PLAN FOR APPROVAL BY THE ENGINEER.

2. FISH SHALL BE REMOVED FROM THE PROJECT SITE BY A QUALIFIED FISHERIES BIOLOGIST, LICENSED FOR SUCH ACTIVITIES BY THE NATIONAL MARINE FISHERIES SERVICE AND THE CALIFORNIA DEPARTMENT OF FISH AND GAME.

3. BLOCK NETS SHALL BE PROVIDED AND INSTALLED BY THE FISHERIES BIOLOGIST. BLOCK NETS SHALL BE MAINTAINED BY THE CONTRACTOR BOTH UPSTREAM AND DOWNSTREAM OF THE WORK AREA, THROUGHOUT THE PERIOD OF CONSTRUCTION. MAINTENANCE INCLUDES PERIODIC REMOVAL OF ACCUMULATED DEBRIS, AS NECESSARY TO ENSURE FUNCTION. BLOCK NETS SHALL BE REMOVED BY THE FISHERIES BIOLOGIST AFTER THE DIVERSION IS REMOVED AND THE IN CHANNEL WORK AREA IS RE-WATERED.



DIVERSION DAM PROFILE (1 / C5)
SCALE: 1"=5'



ACCESS, EROSION CONTROL AND DEWATERING PLAN
SCALE: 1"=20'

LEGEND

- 350 — EXISTING CONTOURS
- SILT FENCE
- ESA FENCE
- 36"DESC — EXISTING TREE
- 36"DESC — TREE TO BE REMOVED
- EXISTING BEAVER HUT
- BEAVER HUT TO BE REMOVED
- STAGING AND STOCKPILE AREA
- TEMPORARY ACCESS ROAD
- LIMITS OF DISTURBANCE, APPROX.
- FISH BLOCK NET

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ACCESS, EROSION CONTROL AND DEWATERING PLAN

RODRIGUEZ CROSSING
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0 1"

C5 | 5 of 6

GENERAL NOTES

1. PREPARED AT THE REQUEST OF:
   TOM TROTT, PROJECT MANAGER-UTILITIES DIVISION
   COUNTY OF SAN LUIS OBISPO, DEPARTMENT OF PUBLIC WORKS
   COUNTY GOVERNMENT CTR., RM 207
   SAN LUIS OBISPO, CA 93408
   805-781-1186

2. TOPOGRAPHIC MAPPING PROVIDED BY:
   PENFIELD & SMITH
   210 EAST ENOS DRIVE, SUITE A
   SANTA MARIA, CA 93454
   0805-925-2345

3. SURVEY CONDUCTED JANUARY 2011.

4. ELEVATION DATUM: REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29), DEFINED LOCALLY BY "LOPEZ DAM MONITORING POINTS AND SURVEY CONTROL" AS SHOWN ON A MAP PROVIDED TO PENFIELD & SMITH BY THE COUNTY OF SAN LUIS OBISPO PUBLIC WORKS DEPARTMENT. THIS SURVEY TIED TO BENCHMARK SM-14 (CONTROL POINT 201), BEING A ⅝" REBAR MARKED "X" IN CONCRETE DOWN 1' IN MONUMENT WELL 3' SOUTHWEST OF THE EDGE OF PAVEMENT AND 150' EAST OF THE SPILLWAY ON LOPEZ DAM. ELEVATION = 534.85 FEET.

5. BASIS OF BEARINGS AND COORDINATES:BEARINGS SHOWN ON THIS MAP ARE REFERENCED TO THE CALIFORNIA COORDINATE SYSTEM, NAD 27, ZONE 5 GRID, DEFINED LOCALLY BY "LOPEZ DAM MONITORING POINTS AND SURVEY CONTROL" AS SHOWN ON A MAP PROVIDED TO PENFIELD & SMITH BY THE COUNTY OF SAN LUIS OBISPO PUBLIC WORKS DEPARTMENT. THIS SURVEY IS ROTATED TO MATCH THE BEARING OF SOUTH 47°37'58" EAST BETWEEN POINTS CM-4 (CONTROL POINT 201) AND CM-12 (CONTROL POINT 202). SEE CONTROL POINT LISTING.

6. ELEVATIONS AND DISTANCES SHOWN ARE IN FEET AND DECIMALS THEREOF. CONTOUR INTERVAL IS 1 FOOT.

7. UTILITIES: SURFACE UTILITY FEATURES SHOWN HEREON WERE LOCATED AS A PART OF THE FIELD SURVEY PERFORMED BY PENFIELD & SMITH BASED ON VISIBILITY ON THE DATE OF SURVEY. NO RESEARCH OR MAPPING OF SUBSURFACE UTILITIES HAS BEEN PERFORMED.

8. THIS IS NOT A BOUNDARY SURVEY. PROPERTY LINES ARE NOT SHOWN HERON.

9. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE TECHNICAL SPECIFICATIONS AND THE CURRENT EDITION OF THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS FOR CONSTRUCTION OF LOCAL STREETS AND ROADS (HEREAFTER REFERRED TO AS "STANDARD SPECIFICATIONS".

10. THE ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. THE ENGINEER OR A DESIGNATED REPRESENTATIVE SHALL MONITOR THE CONSTRUCTION PROCESS, AS NECESSARY, TO ENSURE PROPER INSTALLATION PROCEDURES.

11. EXISTING UNDERGROUND UTILITY LOCATIONS:

    PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL CONTACT ALL UTILITIES COMPANIES WITH REGARD TO WORKING OVER, UNDER, OR AROUND EXISTING FACILITIES AND TO OBTAIN INFORMATION REGARDING RESTRICTIONS THAT ARE REQUIRED TO PREVENT DAMAGE TO THE FACILITIES.

    LOCATIONS SHOWN ARE COMPILED FROM INFORMATION SUPPLIED BY THE APPROPRIATE UTILITY AGENCIES AND FROM FIELD MEASUREMENTS TO ABOVE GROUND FEATURES READILY VISIBLE AT THE TIME OF SURVEY. LOCATIONS SHOWN ARE APPROXIMATE. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE DIMENSIONS, SIZES, MATERIALS, LOCATIONS, AND DEPTH OF UNDERGROUND UTILITIES.

    THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE LOCATION AND/OR PROTECTION OF ALL EXISTING AND PROPOSED PIPING, UTILITIES, TRAFFIC SIGNAL EQUIPMENT (BOTH ABOVE GROUND AND BELOW GROUND), STRUCTURES, AND ALL OTHER EXISTING IMPROVEMENTS THROUGHOUT CONSTRUCTION.

    PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION, CONTRACTOR SHALL DISCOVER OR VERIFY THE ACTUAL DIMENSIONS, SIZES, MATERIALS, LOCATIONS, AND ELEVATIONS OF ALL EXISTING UTILITIES AND POTHOLE THOSE AREAS WHERE POTENTIAL CONFLICTS ARE LIKELY OR DATA IS OTHERWISE INCOMPLETE.

    CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO PROTECT EXISTING UTILITIES DURING CONSTRUCTION OPERATIONS, AND SHALL BE SOLELY RESPONSIBLE FOR THE COST OF REPAIR/REPLACEMENT OF ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION. CONTRACTOR TO CALL UNDERGROUND SERVICE ALERT (1-800-642-2444) TO LOCATE ALL UNDERGROUND UTILITY LINES PRIOR TO COMMENCING CONSTRUCTION.

    UPON LEARNING OF THE EXISTENCE AND/OR LOCATIONS OF ANY UNDERGROUND FACILITIES NOT SHOWN OR SHOWN INACCURATELY ON THE PLANS OR NOT PROPERLY MARKED BY THE UTILITY OWNER, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY OWNER AND THE COUNTY BY TELEPHONE AND IN WRITING.

    UTILITY RELOCATIONS REQUIRED FOR THE CONSTRUCTION OF THE PROJECT FACILITIES WILL BE PERFORMED BY THE UTILITY COMPANY, UNLESS OTHERWISE NOTED.

12. HOULD THE CONTRACTOR DISCOVER ANY DISCREPANCIES BETWEEN THE CONDITIONS EXISTING IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS, HE SHALL NOTIFY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

13. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE FULLY INFORMED OF AND TO COMPLY WITH ALL LAWS, ORDINANCES, CODES, REQUIREMENTS AND STANDARDS WHICH IN ANY MANNER AFFECT THE COURSE OF CONSTRUCTION OF THIS PROJECT, THOSE ENGAGED OR EMPLOYED IN THE CONSTRUCTION AND THE MATERIALS USED IN THE CONSTRUCTION.

14. PROJECT SCHEDULE: PRIOR TO COMMENCEMENT OF WORK, CONTRACTOR SHALL PROVIDE ENGINEER A DETAILED CONSTRUCTION SCHEDULE FOR APPROVAL. THE CONTRACTOR SHALL NOT BEGIN ANY CONSTRUCTION WORK UNTIL THE PROJECT SCHEDULE AND WORK PLAN IS APPROVED BY THE ENGINEER. ALL CONSTRUCTION SHALL BE CLOSELY COORDINATED WITH THE ENGINEER SO THAT THE QUALITY OF WORK CAN BE CHECKED FOR APPROVAL. THE CONTRACTOR SHALL PURSUE WORK IN A CONTINUOUS AND DILIGENT MANNER TO ENSURE A TIMELY COMPLETION OF THE PROJECT.

15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN, PERMITTING, INSTALLATION, AND MAINTENANCE OF ANY AND ALL TRAFFIC CONTROL MEASURES DEEMED NECESSARY.

16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR GENERAL SAFETY DURING CONSTRUCTION. ALL WORK SHALL CONFORM TO PERTINENT SAFETY REGULATIONS AND CODES. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR FURNISHING, INSTALLING, AND MAINTAINING ALL WARNING SIGNS AND DEVICES NECESSARY TO SAFEGUARD THE GENERAL PUBLIC AND THE WORK, AND PROVIDE FOR THE PROPER AND SAFE ROUTING OF VEHICULAR AND PEDESTRIAN TRAFFIC DURING THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE PROVISIONS OF OSHA IN THE CONSTRUCTION PRACTICES FOR ALL EMPLOYEES DIRECTLY ENGAGED IN THE CONSTRUCTION OF THIS PROJECT.

17. CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTION LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL. NEITHER THE PROFESSIONAL ACTIVITIES OF CONSULTANT NOR THE PRESENCE OF CONSULTANT OR HIS OR HER EMPLOYEES OR SUB-CONSULTANTS AT A CONSTRUCTION SITE SHALL RELIEVE THE CONTRACTOR AND ITS SUBCONTRACTORS OF THEIR RESPONSIBILITIES INCLUDING, NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND APPLICABLE HEALTH OR SAFETY REQUIREMENTS OF ANY REGULATORY AGENCY OR OF STATE LAW.

18. THE CONTRACTOR SHALL MAINTAIN A CURRENT, COMPLETE, AND ACCURATE RECORD OF ALL AS-BUILT DEVIATIONS FROM THE CONSTRUCTION AS SHOWN ON THESE DRAWINGS AND SPECIFICATIONS, FOR THE PURPOSE OF PROVIDING THE ENGINEER OF RECORD WITH A BASIS FOR THE PREPARATION OF RECORD DRAWINGS.

19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE SITE IN A NEAT AND ORDERLY MANNER THROUGHOUT THE CONSTRUCTION PROCESS. ALL MATERIALS SHALL BE STORED WITHIN APPROVED STAGING AREAS.

20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AT HIS EXPENSE, ALL REQUIRED PERMITS NOT PREVIOUSLY OBTAINED BY THE OWNER. THE CONTRACTOR SHALL PROVIDE, AT HIS EXPENSE, ALL MATERIALS, LABOR AND EQUIPMENT REQUIRED TO COMPLY WITH ALL APPLICABLE PERMIT CONDITIONS AND REQUIREMENTS.

21. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING AND LAYOUT, UNLESS OTHERWISE SPECIFIED.

22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND PRESERVATION OF ALL SURVEY MONUMENTS OR PROPERTY CORNERS. DISTURBED MONUMENTS SHALL BE RESTORED BACK TO THEIR ORIGINAL LOCATION AND SHALL BE CERTIFIED BY A REGISTERED CIVIL ENGINEER OR LAND SURVEYOR AT THE EXPENSE OF THE CONTRACTOR.

23. TREE DIMENSIONS: TRUNK DIAMETERS SHOWN REPRESENT DIAMETER AT BREAST HEIGHT (DBH), MEASURED IN INCHES. DBH IS MEASURED 4.5 FT ABOVE GROUND FOR SINGLE TRUNKS AND TRUNKS THAT SPLIT INTO SEVERAL STEMS CLOSE TO THE GROUND. THE DBH FOR TREES THAT SPLIT INTO SEVERAL STEMS CLOSE TO THE GROUND MAY BE CONSOLIDATED INTO A SINGLE DBH BY TAKING THE SQUARE ROOT OF THE SUM OF ALL SQUARED STEM DBH'S, UNLESS OTHERWISE NOTED. WHERE TREES FORK NEAR BREAST HEIGHT, TRUNK DIAMETER IS MEASURED AT THE NARROWEST PART OF THE MAIN STEM BELOW THE FORK. FOR TREES ON A SLOPE, BREAST HEIGHT IS REFERENCED FROM THE UPPER SIDE OF THE SLOPE. FOR LEANING TREES, BREAST HEIGHT IS MEASURED ON THE SIDE THAT THE TREE LEANS TOWARD. TREES WITH DBH LESS THAN 8" ARE TYPICALLY NOT SHOWN.

DUST CONTROL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTINUOUS DUST CONTROL, THROUGHOUT THE CONSTRUCTION, IN ACCORDANCE WITH THE CONDITIONS OF THE DUST CONTROL PERMIT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REGULAR CLEANING OF ALL MUD, DIRT, DEBRIS, ETC., FROM ANY AND ALL ADJACENT ROADS AND SIDEWALKS, AT LEAST ONCE EVERY 24 HOURS WHEN OPERATIONS ARE OCCURRING.

2. ALL DISTURBED AREAS, INCLUDING UNPAVED ACCESS ROADS OR STORAGE PILES, NOT BEING ACTIVELY UTILIZED FOR CONSTRUCTION PURPOSES, SHALL BE EFFECTIVELY STABILIZED OF DUST EMISSIONS USING WATER, CHEMICAL STABILIZER/SUPPRESSANT, OR VEGETATIVE GROUND COVER.

3. ALL GROUND-DISTURBING ACTIVITIES (E.G., CLEARING, GRUBBING, SCRAPING, AND EXCAVATION) SHALL BE EFFECTIVELY CONTROLLED OF FUGITIVE DUST EMISSIONS UTILIZING APPLICATION OF WATER OR BY PRE-SOAKING.

4. ALL MATERIALS TRANSPORTED OFFSITE SHALL BE COVERED OR EFFECTIVELY WETTED TO LIMIT DUST EMISSIONS.

5. FOLLOWING THE ADDITION OF MATERIALS TO, OR THE REMOVAL OF MATERIALS FROM, THE SURFACES OF OUTDOOR STORAGE PILES, SAND PILES SHALL BE EFFECTIVELY STABILIZED OF FUGITIVE DUST EMISSIONS UTILIZING SUFFICIENT WATER OR CHEMICAL STABILIZER/SUPPRESANT.

6. ONSITE VEHICLE SPEED ON UNPAVED SURFACES SHALL BE LIMITED TO 15 MPH.

7. ONSITE TRUCK AND EQUIPMENT ENGINES SHALL BE MAINTAINED IN GOOD RUNNING CONDITION, IN ACCORDANCE WITH MANUFACTURERS' SPECIFICATIONS.

EARTHWORK NOTES

1. ALL GRADING IN THE VICINITY OF THE CONCRETE ENCASED WATER SUPPLY PIPELINE SHALL COMPLY WITH THE RECOMMENDATIONS OF THE STRUCTURAL ANALYSIS, "RODRIGUEZ BRIDGE RIFFLE ROCK STURCTURE PROJECT", DATED MARCH 30, 2011, BY:

   SWANSON DESIGN ENGINEERING
   669 PACIFIC STREET, SUITE G
   SAN LUIS OBISPO, CA 93401
   805-440-8624

2. PRIOR TO PERFORMING ANY WORK, THE CONTRACTOR SHALL BE FAMILIAR WITH THE STRUCTURAL ANALYSIS. IN THE EVENT OF DISCREPANCY BETWEEN THE STRUCTURAL ANALYSIS AND THE NOTES HEREIN, THE ANALYSIS SHALL PREVAIL. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VISIT THE SITE AND MAKE HIS OWN INTERPRETATIONS WITH REGARD TO MATERIALS, METHODS AND EQUIPMENT NECESSARY TO PERFORM THE WORK REQUIRED FOR THIS PROJECT.

3. GRADING SUMMARY:
   TOTAL CUT VOLUME = 707 CY
   TOTAL FILL VOLUME = 1,372 CY
   OFFHAUL = 528 CY

4. THE ABOVE QUANTITIES ARE APPROXIMATE IN-PLACE VOLUMES CALCULATED AS THE DIFFERENCE BETWEEN EXISTING GROUND AND THE PROPOSED FINISH GRADE. EXISTING GROUND IS DEFINED BY THE TOPOGRAPHIC CONTOURS AND/OR SPOT ELEVATIONS ON THE PLAN. PROPOSED FINISH GRADE IS DEFINED AS THE DESIGN SURFACE ELEVATION OF EARTH TO BE CONSTRUCTED.

5. THE ABOVE QUANTITIES HAVE BEEN CALCULATED FOR PERMITTING PURPOSES ONLY AND HAVE NOT BEEN FACTORED TO INCLUDE ALLOWANCES FOR BULKING, CLEARING AND GRUBBING, SUBSIDENCE, SHRINKAGE, OVER EXCAVATION, AND RECOMPACTION, UNDERGROUND UTILITY AND SUBSTRUCTURE SPOILS AND CONSTRUCTION METHODS.

6. THE CONTRACTOR SHALL PERFORM AN INDEPENDENT EARTHWORK ESTIMATE FOR THE PURPOSE OF PREPARING BID PRICES FOR EARTHWORK. THE BID PRICE SHALL INCLUDE COSTS FOR ANY NECESSARY IMPORT AND PLACEMENT OF EARTH MATERIALS OR THE EXPORT AND PROPER DISPOSAL OF EXCESS EARTH MATERIALS.

7. ALL EXCESS SOILS SHALL BE REMOVED TO AN APPROVED DUMP SITE OR DISPOSED OF ON SITE AT A LOCATION TO BE APPROVED BY THE ENGINEER, IN A MANNER THAT WILL NOT CAUSE EROSION,

8. CLEARING AND GRUBBING, SUBGRADE PREPARATION AND EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 19 OF THE STANDARD SPECIFICATIONS, THESE DRAWINGS, AND THE TECHNICAL SPECIFICATIONS.

9. UNSUITABLE SOIL OR MATERIALS, NOT TO BE INCLUDED IN THE WORK INCLUDE:

   A.ORGANIC MATERIALS SUCH AS PEAT, MULCH, ORGANIC SILT OR SOD.
   B.SOILS CONTAINING EXPANSIVE CLAYS.
   C.MATERIAL CONTAINING EXCESSIVE MOISTURE.
   D.POORLY GRADED COURSE MATERIAL, PARTICLE SIZE IN EXCESS OF 6 INCHES.
   E.MATERIAL WHICH WILL NOT ACHIEVE SPECIFIED DENSITY OR BEARING.

10. FINE GRADING ELEVATIONS AND SLOPES NOT SHOWN SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD TO OBTAIN DRAINAGE IN THE DIRECTION INDICATED. ALL FINAL GRADING SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.

11. ALL CONTACT SURFACES BETWEEN ORIGINAL GROUND AND RECOMPACTED FILL SHALL BE EITHER HORIZONTAL OR VERTICAL. ALL ORGANIC MATERIAL SHALL BE REMOVED AND THE REMAINING SURFACE SCARIFIED TO A DEPTH OF AT LEAST 12 INCHES, UNLESS DEEPER EXCAVATION IS REQUIRED BY THE ENGINEER.

12. FILL MATERIAL SHALL BE SPREAD IN LIFTS OF APPROXIMATELY 6 INCHES, MOISTENED OR DRIED TO NEAR OPTIMUM MOISTURE CONTENT AND RECOMPACTED TO A MINIMUM OF 95% RELATIVE COMPACTION WITHIN 30 INCHES OF TRAVELED WAY AND 90% RELATIVE COMPACTION ELSEWHERE. THE MATERIALS FOR ENGINEERED FILL SHALL BE APPROVED BY A REGISTERED CIVIL ENGINEER. ANY IMPORTED MATERIALS MUST BE APPROVED BEFORE BEING BROUGHT TO THE SITE. THE MATERIALS USED SHALL BE FREE OF ORGANIC MATTER AND OTHER DELETERIOUS MATERIALS.

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NOTES

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BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

C6
6 OF 6

Appendix B: 9-quadrangle CNDDB search results for Rodriguez Bridge Waterline Crossing Fish Passage Enhancement Project, 300369

Species	Habitat Description	Habitat Presence/Absence	Details
Agrostis hooveri Hoover's bent grass	Chaparral, cismontane woodland, valley and foothill grassland; sandy sites	Absent	Not expected due to lack of suitable habitat. CNDDB search lists occurrences in the quadrants, west, north, northwest, and southwest of Tar Springs.
Anniella pulchra pulchra silvery legless lizard	Sandy or loose loamy soils under sparse vegetation; soil moisture is essential	Absent	Not expected due to lack of suitable habitat. CNDDB search lists two occurrences in the quadrants northwest and southwest of Tar Springs.
Arctostaphylos luciana Santa Lucia Manzanita	Chaparral; on shale outcrops, on slopes, in chaparral	Absent	Not expected due to lack of suitable habitat. CNDDB search lists occurrences in the quadrants northwest and west of Tar Springs.
Arctostaphylos pechoensis Pecho Manzanita	Closed-cone coniferous forest, chaparral, coastal scrub; grows on siliceous shale with other chaparral associates	Absent	Not expected due to lack of suitable habitat. CNDDB search lists one occurrence in the quadrant northwest of Tar Springs.
Arctostaphylos pilosula Santa Margarita Manzanita	Closed-cone coniferous forest, chaparral; shale outcrops and slopes; reported growing on decomposed granite or sandstone in SLO	Absent	Not expected due to lack of suitable habitat. Closest occurrence is located approx. 3 miles northeast of project site.
Arctostaphylos rudis sand mesa Manzanita	Chaparral, coastal scrub; on sandy soils in Lompoc/Nipomo area	Absent	Not expected due to lack of suitable habitat. CNDDB search lists occurrences in the quadrant southwest of Tar Springs.
Arctostaphylos wellsii Wells' Manzanita	Chaparral, closed-cone coniferous forest; sandstone outcrops	Absent	Not expected due to lack of suitable habitat. Closest occurrence is located approx. 4 miles southeast of the project site.
Arenaria paludicola marsh sandwort	Marshes and swamps; growing up through dense mats of Typha, Juncus, Scirpus, etc. in freshwater marsh	Absent	Not expected due to lack of suitable marsh habitat. CNDDB search lists occurrences in the quadrants west and southwest of Tar Springs.
Astragalus didymocarpus var. milesianus Mile's milk-vetch	Coastal scrub; clay soils	Absent	Not expected due to lack of suitable habitat. CNDDB search lists one occurrence in the quadrant southeast of Oceano.
Calochortus obispoensis La Panza mariposa-lily	Chaparral, coastal scrub, valley and foothill grassland; often in serpentine grassland	Absent	Not expected due to lack of suitable habitat. CNDDB search lists occurrences in the quadrants northwest and west of Tar Springs.
Calochortus palmeri var. palmeri Palmer's mariposa lily	Meadows and seeps, chaparral, lower montane coniferous forest	Absent	Not expected due to lack of suitable habitat. CNDDB search lists occurrences in the quadrants east and northeast of Tar Springs.
Calochortus simulans San Luis Obispo mariposa-lily	Valley and foothill grassland, cismontane woodland, chaparral; decomposed granite	Absent	Not expected due to lack of suitable habitat. CNDDB search lists occurrences in the quadrants north and northeast of Tar Springs.
Calystegia subacaulis	Chaparral, cismontane	Absent	Not expected due to lack of

ssp. episcopalism Cambria morning-glory	woodland		suitable habitat. CNDDB search lists occurrences in the quadrants northwest and west of Tar Springs.
Castilleja densiflora ssp. obispoensis San Luis Obispo owl's-clover	Valley and foothill grassland	Absent	Not expected due to lack of suitable habitat. CNDDB search lists occurrences in the quadrants northwest and west of Tar Springs.
Carex obispoensis San Luis Obispo sedge	Closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, valley and foothill grassland, usually on sand, clay, or serpentine; in seeps	Absent	Not expected due to lack of suitable habitat. CNDDB search lists occurrences in the quadrants north and northwest of Tar Springs.
Caulanthus coulteri var. lemmonii Lemmon's jewel-flower	Pinyon-juniper woodland, valley and foothill grassland	Absent	Not expected due to lack of suitable habitat. CNDDB search lists one occurrence in the quadrant northeast of Tar Springs.
Charadrius alexandrinus nivosus western snowy plover	Sandy beaches, salt pond levees & shores of large alkali lakes; needs sandy, gravelly or friable soils for nesting	Absent; additionally, proposed critical habitat not present in the project area.	Not expected due to lack of suitable habitat. CNDDB search lists one occurrence in the quadrant southwest of Tar Springs.
Chorogalum pomeridianum var. minus Dwarf soaproot	Chaparral, valley and foothill grassland	Absent	Not expected due to lack of suitable habitat. CNDDB lists one occurrence in the quadrant northwest of Tar Springs.
Chorizanthe breweri Brewer's spineflower	Chaparral, cismontane woodland, coastal scrub, closed-cone coniferous forest; rocky or gravelly serpentine sites; usually in barren areas.	Absent	Not expected due to lack of suitable habitat. CNDDB search lists occurrences in the quadrants northwest and west of Tar Springs.
Chorizanthe rectispina Straight-awned spineflower	Chaparral, cismontane woodland, coastal scrub; often on granite in chaparral	Absent	Not expected due to lack of suitable habitat. CNDDB search lists occurrences in the quadrants northwest and west of Tar Springs.
Cirsium fontinale var. obispoensis Chorro Creek bog thistle	Chaparral, cismontane woodland	Absent	Not expected due to lack of suitable habitat. CNDDB search lists one occurrence in quadrant northwest of Tar Springs.
Cirsium loncholepis La Graciosa thistle	Coastal dunes, brackish marshes, riparian scrub; lake edges, riverbanks, other wetlands; often in dune areas	Absent; additionally, critical habitat not designated in the project area.	Not expected – this species has not been seen along Arroyo Grande Creek since 1910; there is little suitable habitat remaining (74 FR 56995).
Cirsium rhothophilum Surf thistle	Coastal dunes, coastal bluff scrub; open areas in central dune scrub; usually in coastal dune	Absent	Not expected due to lack of suitable habitat. CNDDB search lists occurrences in the quadrants west and southwest of Tar Springs.
Clarkia speciosa ssp. immaculata Pismo clarkia	Chaparral, cismontane woodland, valley and foothill grassland; on ancient sand dunes not far from the coast; sandy soils	Absent	Not expected due to lack of suitable habitat. CNDDB search lists occurrences in the quadrants west and southwest of Tar Springs.
Deinandra increscens ssp. foliosa Leafy tarplant	Valley and foothill grassland	Absent	Not expected due to lack of suitable habitat. CNDDB search lists occurrences in the quadrants west, north, and northeast of Tar Springs.
Delphinium parryi ssp.	Chaparral, coastal dunes	Absent	Not expected due to lack of

Appendix B: 9-quadrangle CNDDB search results for Rodriguez Bridge Waterline Crossing Fish Passage Enhancement Project, 300369

blochmaniae dune larkspur	(maritime); on rocky areas and dunes		suitable habitat. CNDDB search lists occurrences in the quadrants northwest and southwest of Tar Springs.
Delphinium umbraculorum Umbrella larkspur	Cismontane woodland; mesic sites.	Absent	Not expected due to lack of suitable habitat. Closest occurrence is approx. 1 mile east of project site.
Dithyrea maritima beach spectaclepod	Coastal dunes, coastal scrub; formerly more widespread in coastal habitats in So Cal; sea shores on sand dunes and sandy places near shore	Absent	Not expected due to lack of suitable habitat. CNDDB search lists occurrences in the quadrants west and southwest of Tar Springs.
Dudleya abramsii ssp. murina Mouse-gray dudleya	Chaparral, cismontane woodland; serpentine outcrops	Absent	Not expected due to lack of suitable habitat. CNDDB search lists occurrences in the quadrants northwest and west of Tar Springs.
Emys marmorata western pond turtle	Inhabits permanent or nearly permanent bodies of water in many habitat types; requires basking sites such as partially submerged logs, vegetation mats, or open mud banks	Present	Potential to occur within project site. Found inhabiting Arroyo Grande Creek.
Eriastrum luteum Yellow-flowered eriastrum	Broadleaved upland forest, cismontane woodland, chaparral	Absent	Not expected due to lack of suitable habitat. CNDDB search lists three occurrences in the quadrant north of Tar Springs.
Erigeron blochmaniae Blochman's leafy daisy	Coastal dunes; sand dunes and hills	Absent	Not expected due to lack of suitable habitat. CNDDB search lists occurrences in the quadrant southwest of Tar Springs.
Eucyclogobius newberryi tidewater goby	Brackish water habitats along the CA coast from Agua Hedionda Lagoon, San Diego Co. to the mouth of the Smith River; found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water & high oxygen levels	Absent	This species has been found in Arroyo Grande Creek in the lagoon. Species is not expected at project site due to lack of brackish water.
Fritillaria ojaiensis Ojai fritillary	Broadleafed upland forest (mesic), chaparral, lower montane coniferous forest	Absent	Not expected due to lack of suitable habitat. CNDDB lists one occurrence in the quadrant north of Tar Springs.
Gila orcuttii Arroyo chub	Los Angeles basin south coastal streams; slow water stream sections with mud or sand bottoms	Absent	Not expected due to lack of suitable habitat. Closest occurrence is approx. 0.8 mi from Project site; however, occurrence was from 1948 and location is now under Lopez Lake.
Gymnogyps californianus California condor	Requires vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges or moderate altitude; deep canyons containing clefts in the rocky walls provide nesting sites; forages up to 100 miles from roost/nest	Present	There is potential for this species to fly over the project site. Closest occurrence is approx. 4 mi from project site. Project activities will be temporary in nature and are not expected to affect this species.

Appendix B: 9-quadrangle CNDDB search results for Rodriguez Bridge Waterline Crossing Fish Passage Enhancement Project, 300369

Horkelia cuneata ssp. puberula mesa horkelia	Chaparral, cismontane woodland, coastal scrub; sandy or gravelly sites	Absent	Not expected due to lack of suitable habitat. CNDDB search lists one occurrence in the quadrant west of Tar Springs.
Horkelia cuneata ssp. sericea Kellogg's horkelia	Closed-cone coniferous forest, coastal scrub, chaparral; old dunes, coastal sandhills	Absent	Not expected due to lack of suitable habitat. CNDDB search lists occurrences in the quadrant southwest of Tar Springs.
Laterallus jamaicensis coturniculus California black rail	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays	Absent	Not expected due to lack of suitable habitat. CNDDB search lists one occurrence in the quadrant southwest of Tar Springs.
Lasiurus blossevillii Western red bat	Roosts primarily in trees, 2-40 feet above ground, from sea level up through mixed coniferous forests	Present	May roost in trees at or near the project site. CNDDB lists one occurrence in quadrant north of Tar Springs. Trees with potential roosting habitat will not be affected (removed or trimmed) as a result of Project activities.
Layia jonesii Jones' layia	Chaparral, valley and foothill grassland; clay soils and serpentine outcrops	Absent	Not expected due to lack of suitable habitat. CNDDB search lists one occurrence in the quadrant northwest of Tar Springs.
Lupinus ludovicianus San Luis Obispo County lupine	Chaparral, cismontane woodland; open areas in sandy soil, Santa Margarita formation	Absent	Not expected due to lack of suitable habitat. Closest occurrence is approx. 0.73 mi north of project site.
Lupinus nipomensis Nipomo Mesa lupine	Coastal dunes; dry sandy flats, restricted to back dunes, assoc with central dune scrub habitat – a rare community type	Absent	Not expected due to lack of suitable habitat. CNDDB search lists occurrences in the quadrant southwest of Tar Springs.
Monardella crispa crisp monardella	Coastal dunes, coastal scrub; often on the borders of open, sand areas, usually adjacent to typical backdune scrub vegetation	Absent	Not expected due to lack of suitable habitat. CNDDB search lists occurrences in the quadrant southwest of Tar Springs.
Monardella frutescens San Luis Obispo monardella	Coastal dunes, coastal scrub; stabilized sand of the immediate coast	Absent	Not expected due to lack of suitable habitat. CNDDB search lists occurrences in the quadrant southwest of Tar Springs.
Monardella palmeri Palmer's monardella	Cismontane woodland, chaparral	Absent	Not expected due to lack of suitable habitat. CNDDB lists occurrences in quadrants northwest and north of Tar Springs.
Nasturtium gambelii Gambel's water cress	Marshes and swamps; freshwater and brackish marshes at the margins of lakes and along streams, in or just above the water level	Absent	Not expected due to lack of suitable marsh habitat. CNDDB search lists occurrences in the quadrant southwest of Tar Springs.
Oncorhynchus mykiss irideus Steelhead	Runs in coastal basins from the Pajaro River south to, but not including, the Santa Maria River	Present	Potential to occur within the project sites. This species has been found in Arroyo Grande Creek.
Phrynosoma coronatum (frontale population) coast horned	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low	Absent	Not expected due to lack of suitable habitat. CNDDB search lists occurrences in the quadrants west and

Appendix B: 9-quadrangle CNDDB search results for Rodriguez Bridge Waterline Crossing Fish Passage Enhancement Project, 300369

lizard	bushes; open areas for sunning, bushes for cover, patches of loose soil for burial & abundant supply of ants and other insects		southwest of Tar Springs.
Progne subis Purple martin	Inhabits woodlands, low elevation coniferous forest of Douglas-fir, Ponderosa pine, and Monterey pine	Absent	Not expected due to lack of suitable habitat. CNDDB search lists one occurrence in quadrant northwest of Tar Springs.
Rana boylii Foothill yellow-legged frog	Partly-shaded, shallow streams and riffles with rocky substrate in variety of habitats.	Absent	Not expected due to lack of suitable habitat; requires cobbles for egg-laying. CNDDB search lists two occurrences in quadrant northwest of Tar Springs.
Rana draytonii California red-legged frog	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation	Present	Potential to occur within the project site. This species has been found in Arroyo Grande Creek.
Scrophularia atrata Black-flowered figwort	Closed-cone coniferous forest, chaparral, coastal dunes, coastal scrub, riparian scrub; sand, diatomaceous shales, and soils derived from other parent material; around swales and in sand dunes	Absent	Not expected due to lack of suitable habitat. CNDDB search lists one occurrence in the quadrant west of Tar Springs.
Streptanthus albidus ssp. peramoenus Most beautiful jewel-flower	Chaparral, valley and foothill grassland, cismontane woodland	Absent	Not expected due to lack of suitable habitat. CNDDB search lists one occurrence in the quadrant northwest of Tar Springs.
Sternula antillarum browni California least tern	Nests along the coast; colonial breeder on bare or sparsely vegetated, flat substrates; sand beaches, alkali flats, landfills, or paved areas	Absent	Not expected due to lack of suitable habitat. CNDDB search lists one occurrence in the quadrant southwest of Tar Springs.
Symphyotrichum defoliatum San Bernardino aster	Meadows and seeps, marshes and swamps, coastal scrub, cismontane woodland, lower montane coniferous forest, grassland. Vernally mesic grassland or near ditches, streams and springs; disturbed areas	Absent	Not expected due to lack of suitable habitat. CNDDB search lists one occurrence in the quadrant southwest of Tar Springs.
Taricha torosa torosa Coast Range newt	Coastal drainages; lives in terrestrial habitats and will migrate over 1 km to breed in ponds, reservoirs, and slow moving streams	Present	Potential to occur within either project site. This species has been found in Arroyo Grande Creek at the base of Lopez Dam, approximately 1.5 miles northeast of the project sites.
Taxidea taxus American badger	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats with friable soils; need sufficient food, friable soils & open, uncultivated ground	Absent	Not expected due to lack of suitable habitat. Closest occurrence is approx. 13.5 mi southwest of the project site.
Thamnophis hammondii Two-striped garter snake	Coastal California; highly aquatic, found in or near permanent freshwater; often along streams with rocky beds and riparian	Present	Potential to occur within the project site. CNDDB lists one occurrence in the quadrant east of Tar Springs.

	growth		
Tropidocarpum capparideum Caper-fruited tropidocarpum	Valley and foothill grassland	Absent	Not expected due to lack of suitable habitat. CNDDB search lists one occurrence in the quadrant northwest of Tar Springs.

CALIFORNIA DEPARTMENT OF FISH AND GAME
REGION 4 - CENTRAL REGION
1234 EAST SHAW AVENUE
FRESNO, CALIFORNIA 93710

STREAMBED ALTERATION AGREEMENT
NOTIFICATION NO. 1600-2011-0105-R4
ARROYO GRANDE CREEK
SAN LUIS OBISPO COUNTY

RODRIGUEZ ROAD WATERLINE CROSSING GRADE STABILIZATION (PROJECT)

DAVE FLYNN
DEPUTY DIRECTOR
COUNTY OF SAN LUIS OBISPO DEPARTMENT OF PUBLIC WORKS
COUNTY GOVERNMENT CENTER ROOM 207
SAN LUIS OBISPO, CALIFORNIA 93408

This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Game (DFG) and Dave Flynn representing the County of San Luis Obispo Department of Public Works (SLO DPW) (jointly referred to as Permittee).

RECITALS

WHEREAS, pursuant to Fish and Game Code (FGC) Section 1602, Permittee notified DFG on May 19, 2011 that Permittee intends to complete the Project described herein.

WHEREAS, pursuant to FGC Section 1603, DFG has determined that the Project could substantially adversely affect existing fish or wildlife resources and has included measures in the Agreement necessary to protect those resources.

WHEREAS, Permittee has reviewed the Agreement and accepts its terms and conditions, including the measures to protect fish and wildlife resources.

NOW THEREFORE, Permittee agrees to complete the Project in accordance with the Agreement.

PROJECT LOCATION

The Project is located on Arroyo Grande Creek at Rodriguez Road approximately 3,850 feet south of Lopez Dam, approximately 6 miles east of the City of Arroyo Grande, in the Huasna-Lopez planning area in southwestern San Luis Obispo County. The waterline crosses the Arroyo Grande Creek near the base of the Rodriguez Bridge (Section 32, Township 31 South, Range 12 East) (Latitude 35°11'06.46, Longitude 120°29'59.43).

PROJECT DESCRIPTION:

The SLO DPW proposes to improve fish passage and protect an existing Lopez Water Treatment Plant Water supply pipeline in Arroyo Grande Creek. The Project would involve the construction of approximately 200 lineal feet of roughened riffle rock structures (approximately 973 cubic yards of engineered streambed material with 333 cubic yards of weir boulders) within the streambed downstream of the pipeline. Large immobile boulders will form a boulder sill above the streambed while a 2.5 percent streambed grade will be achieved utilizing engineered streambed material. Construction of new streambed grades would prevent catastrophic blowout of the pipeline and would provide a resting pool at the pipeline crossing to eliminate the barrier to fish passage, which has formed due to the dynamic hydrology and geology of the creek. Streambed contour design would also accommodate an additional resting pool downstream of the waterline crossing with habitat enhancing log structure.

Staging and access to the Project site will primarily occur within County Right-of-Way along Rodriguez Street and Lopez Drive. The County will seek an easement on the adjacent open space portion of the Las Ventanas Ranch to accommodate weir boulder installation and habitat enrichment in the creek. Construction access will be limited to the western side of Arroyo Grande Creek at Rodriguez Bridge. A short access road will be graded on the west side of the creek at the south end of the Rodriguez Bridge to provide sufficient construction equipment access to the streambed.

The creek will be accessed for grading, engineered streambed material installation and boulder installation. Access will also enable construction of fish passage enhancement elements of the Project design. Dewatering will be required for construction activities. A temporary dam lined with Visqueen will dewater the site while routing stream flows through a temporary dam as well as downstream of the flexible pipe outlet to prevent any harm to sensitive species.

Equipment used will include an excavator, dump truck, and loader.

PROJECT IMPACTS

Plant and Animal Special Status Species: This Agreement is intended to avoid, minimize, and mitigate adverse impacts to the fish and wildlife resources that occupy the area of the Arroyo Grande Creek, and the immediate adjacent riparian habitat. Absent implementation of the protective measures required by this Agreement, the following species and habitat types could potentially be impacted within the area covered by this Agreement: Federally threatened South Central California Coast southern steelhead (*Oncorhynchus mykiss irideus*), Federally threatened red-legged frog (*Rana aurora draytonii*), State species of special concern Western pond turtle (*Emys marmorata*), State species of concern coast range newt (*Taricha torosa*), State

species of special concern two-striped garter snake (*Thamnophis hammondii*), as well as other birds, mammals, fish, reptiles, amphibians, invertebrates, and plants that comprise the local non-native grassland and vernal pool ecosystem. The California Natural Diversity Data Base (CNDDB) and other DFG files and references contain information on species that could be subject to potential impacts generated from this Project.

MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

1. Administrative Measures

Permittee shall meet each administrative requirement described below.

1.1 Documentation at Project Site. Permittee shall make the Agreement, any extensions and amendments to the Agreement, and all related notification materials and California Environmental Quality Act (CEQA) documents, readily available at the Project site at all times and shall be presented to DFG personnel or personnel from another State, Federal, or local agency upon request.

1.2 Providing Agreement to Persons at Project Site. Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement to all persons who will be working on the Project at the Project site on behalf of Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.

1.3 Notification of Conflicting Provisions. Permittee shall notify DFG if Permittee determines or learns that a Provision in the Agreement might conflict with a Provision imposed on the Project by another local, State, or Federal agency. In that event, DFG shall contact Permittee to resolve any conflict.

1.4 Project Site Entry. Permittee agrees that DFG personnel may enter the Project site at any time to verify compliance with the Agreement.

1.5 Legal Obligations. This Agreement does not exempt the Permittee from complying with all other applicable local, State and Federal law, or other legal obligations.

1.6 Unauthorized Take. This Agreement does not authorize the "take" ("take" defined in FGC Section 86 as to hunt, pursue, catch, capture, or kill; or attempt to hunt, pursue, catch, capture, or kill) of State- or Federally-listed threatened or endangered species. Any such "take" shall require separate permitting as may be required.

1.7 Water Diversion. To the extent that the Provisions of this Agreement provide for the diversion of water, they are agreed to with the understanding that the Permittee possesses the legal right to so divert such water.

1.8 Trespass. To the extent that the Provisions of this Agreement provide for activities that require the Permittee to trespass on another owner's property, they are agreed to with the understanding that the Permittee possesses the legal right to so trespass.

1.9 Construction/Work Schedule. The Permittee shall submit a construction/work schedule to DFG (mail, or fax to (559) 243-4020, with reference to Agreement 1600-2011-0105-R4) prior to beginning any activities covered by this Agreement. The Permittee shall also notify DFG upon the completion of the activities covered by this Agreement.

1.10 Training. Prior to starting any activity within the stream, all workers shall have received training from the Permittee, a qualified biologist, or an approved alternate trainer, on the contents of this Agreement, the resources at stake, and the legal consequences of non-compliance.

2. Avoidance and Minimization Measures

To avoid or minimize adverse impacts to fish and wildlife resources identified above, Permittee shall implement each measure listed below.

2.1 Construction/Work Hours. All non-emergency work activities during the construction phase will be confined to daylight hours.

2.2 Flagging/Fencing. Prior to any activity within the stream, the Permittee shall identify the limits of the required access routes and encroachment into the stream and ponded areas. These "work area" limits shall be identified with brightly-colored flagging/fencing. Work completed under this Agreement shall be limited to this defined area only. Flagging/fencing shall be maintained in good repair for the duration of the Project. All areas beyond the identified work area limits shall be considered Environmentally Sensitive Areas (ESA) and shall not be disturbed.

2.3 Listed and Special Status Species.

(a) This Agreement does not authorize "take," or "incidental take," of any State- or Federally-listed threatened or endangered, or fully-protected species. Liability for any "take," or "incidental take," of such listed species remains the responsibility of the Permittee for the duration of the Project. The Permittee affirms that no "take" of any State- or Federally-listed species shall occur

without appropriate State or Federal "take" authorization. Any unauthorized "take" of such listed species may result in prosecution and nullify this Agreement.

(b) Pre-activity surveys for sensitive species or their sign (with emphasis on those species listed above in Project Impacts – Plant and Animal Special Status Species) shall be conducted by a qualified biologist within 30 days prior to commencement of the proposed construction activity or as specified within current survey protocols. Be advised that this survey is in addition to any required protocol or biological surveys. The Permittee shall notify the DFG of the discovery of any rare, threatened, or endangered species prior to commencement of construction. Surveys shall be conducted within a minimum 500–foot radius of the "work area". The purpose of pre-activity surveys is to avoid intentional and "incidental take," confirm previous observations, identify any subsequent occupation of the stream corridor and other work areas by listed species, and clearly mark all resources to be avoided by Project activities. All surveys for threatened or endangered species shall be done in accordance with the appropriate protocol. Surveys for any State threatened, endangered, or fully-protected species shall be completed unless appropriate preconstruction surveys determine the lack of habitat for these species or potential habitat is flagged and avoided.

(c) California Red-Legged Frog: Project-related activities within potentially suitable breeding habitat (slow-running or ponded areas within the stream) shall occur between May 1 and November 15 which is generally considered outside the active breeding season for the California red-legged frog.

(d) Within 48 hours prior to construction or vegetation removal activities, the Project site shall be surveyed by a qualified biologist for California red-legged frog. If any California red-legged frogs are found, work shall not start until the United States Fish and Wildlife Service (USFWS) and DFG have been contacted and have provided written authorization for work to continue.

(e) To minimize the possibility of injuring California red-legged frog and other wildlife, herbaceous and small shrubby vegetation within the Project boundaries that would be disturbed shall be removed by hand prior to the use of heavy equipment or machinery. All trash shall be removed from the site daily to avoid attracting potential predators to the site. No pets shall be permitted to be at the site during construction.

(f) Western Pond Turtle: Any turtles discovered at the site immediately prior to or during Project activities shall be captured by a qualified biologist and relocated out of harms way to the nearest suitable habitat immediately upstream or downstream from the Project site.

(g) Steelhead: To avoid impacts to southern steelhead, no activity shall occur in the live stream (see Avoidance and Minimization 2.11 Diversion/Dewatering below).

(h) Only vegetable-based or other "environmentally friendly" bar oil shall be used to lubricate chain saw bars for removing debris or vegetation.

(i) If the Permittee, in the performance of the agreed work, discovers the presence of a listed species within or adjacent to the Project Boundary, work shall stop immediately. The Permittee shall not resume activities authorized by this Agreement until such time as valid "take" permits are obtained from DFG pursuant to FGC Section 2081(b).

(j) A qualified biological monitor shall be available on-site during initial ground disturbing activities and during any vegetation trimming/removal. The biological monitor shall survey for special status species ahead of any ground disturbing activity. Following completion of these activities and for the remainder of the Project, the monitor shall then visit the site daily each morning prior to the start of Project-related activities to ensure no special status species have re-entered the site, and to verify compliance with avoidance and minimization measures for special status species.

(k) If any special status species are subsequently discovered on, or within 250 feet of any work site, all potentially disturbing activities shall be halted immediately and work shall not resume until appropriate protective buffer zones are established (unless otherwise approved by DFG).

(l) No off-road driving shall be permitted except within the approved work site. Storage and parking areas, as well as borrow and spoil sites, are subject to all of the "take" avoidance and mitigation measures that apply to the other work areas.

2.4 Wildlife.

(a) If any general wildlife is encountered during the course of vegetation removal or other Project-related activities, said wildlife shall be allowed to leave the construction area unharmed.

(b) Pursuant to FGC Sections 3503 and 3503.5, it is unlawful to "take," possess, or needlessly destroy the nest or eggs of any bird or bird-of-prey. To protect nesting birds, no construction shall be completed from March 1 through July 30 unless the following surveys are completed by a qualified biologist.

Raptors: Survey for nesting activity of within a ¼-mile radius of the construction site. Surveys shall be conducted at appropriate nesting times. If any active nests are observed, these nests shall be designated an ESA and protected (while occupied) during Project-construction. A minimum 500-foot avoidance buffer shall be established and maintained around each nest.

Other Avian Species: Survey for other avian nesting activity within a 500-foot radius of the defined work area. Surveys shall be conducted at appropriate nesting times. A minimum 150-foot avoidance buffer shall be established and maintained around each nest.

2.5 Vegetation.

(a) Removal of native riparian vegetation species (such as willow and cottonwood) shall not exceed the minimum necessary to complete operations and shall only occur within the defined work area. The disturbed portions of the stream bed, banks or channel shall be restored to as near their original condition as possible.

(b) No native riparian vegetation with a diameter at breast height (DBH) greater than four (4) inches shall be damaged or removed from the Project area without mitigating for lost trees at a 3:1 ratio (replaced to lost). Mitigation for heritage trees greater than 24-inches DBH shall be replaced at a 10:1 ratio. No vegetation outside of the flagged/fenced work area shall be disturbed.

(c) The Permittee shall retain a qualified biologist to document the number and species of all woody-stemmed plants/trees in excess of four (4) inches DBH that are to be removed or damaged. This information shall be submitted to the DFG prior to commencement of work activities. This documentation shall be used as the basis for replacement mitigation (see Revegetation and Restoration below).

(d) Mitigation planting of native trees, shrubs, herbs and grasses shall be maintained and monitored so that at least 70 percent of the plantings survive after five (5) years (see Restoration and Revegetation below).

(e) Vegetation or material removed from the stream shall not be stockpiled in the streambed or on its bank.

(f) The Permittee may remove non-native, invasive vegetation [such as giant reed (*arundo*), tree-of-heaven, tree tobacco, castor bean, pampas grass, eucalyptus, and acacia], including stumps and roots from all Project boundaries. The non-native vegetation shall be removed in a manner so that it does not promulgate or propagate. These areas may be revegetated with native species for erosion control and to replace riparian or other vegetation removed elsewhere within the Project boundary.

2.6 Vehicles.

(a) Vehicles shall not be operated in areas where surface water is present. Vehicles shall only operate in the channel during naturally dry conditions.

(b) Construction vehicle access to the stream's banks and bed shall be limited to predetermined ingress and egress corridors ~~on existing roads~~. All other areas adjacent to the work site shall be considered an ESA and shall remain off-limits to construction equipment. Vehicle corridors and the ESA shall be identified by the Permittee's resident engineer in consultation with DFG representative.

(c) Any equipment or vehicles driven and/or operated within or adjacent to the stream shall be checked and maintained daily to prevent leaks of materials that, if introduced to water, could be deleterious to aquatic and terrestrial life.

(d) Staging and storage areas for equipment, materials, fuels, lubricants, and solvents shall be located outside of the stream channel and banks. Stationary equipment such as motors, pumps, generators, compressors and welders, located within or adjacent to the stream, shall be positioned over drip-pans. Vehicles shall be moved away from the stream prior to refueling and lubrication.

2.7 Structures. The Permittee confirms that any and all structures and constructed features shall be properly aligned and otherwise engineered, installed, and maintained, to assure resistance to washout, and to erosion of the stream bed, stream banks and/or fill and that they will not cause long-term changes in water flows that adversely modify the existing upstream or downstream stream bed/bank contours or increase sediment deposition.

2.8 Fill/Spoil.

(a) Spoil storage sites shall not be located within the stream, where spoil will be washed into the stream. Rock, gravel, and/or other materials shall not be imported into or moved within the bed or banks of the stream, except as otherwise addressed in this Agreement.

(b) Fill shall be limited to the minimal amount necessary to accomplish the agreed activities. Excess fill material shall be moved off-site at Project completion.

2.9 Erosion.

(a) The Permittee shall develop plans to control erosion and stabilize areas subject to ground disturbance during construction. A Construction Period Erosion Prevention and Contingency Plan shall be developed and implemented prior to commencement of Project activities. The Plan may include or be comprised of a statement of Best Management Practices (BMPs), winterization plan, etc., used to prevent pollution of surface water.

(b) All disturbed soils within the Project site shall be stabilized to reduce erosion potential, both during and following construction. Temporary erosion control devices, such as straw bales, silt fencing, and sand bags, may be used, as appropriate, to prevent siltation of the stream. Any installation of non-erodible materials not described in the original Project description shall be coordinated with DFG. Coordination may include the negotiation of additional Agreement Provisions for this activity.

(c) Silty water shall not be discharged into the stream, or created within the stream. The Permittee's ability to minimize siltation shall be the subject of preconstruction planning and feature implementation. Precautions to minimize siltation may require that the work site be isolated so that silt, or other deleterious materials, are not allowed to pass to downstream reaches. The placement of any structure or materials in the stream for this purpose, not included in the original Project description, shall be coordinated with DFG. If it is determined that silt levels resulting from Project-related activities constitute a threat to aquatic life, activities associated with the siltation shall be halted until effective DFG-approved control devices are installed, or abatement procedures are initiated.

2.10 Pollution.

(a) During construction, the Permittee will not dump any litter or construction debris within the stream zone. All such debris and waste will be picked up daily and properly disposed of at an appropriate site.

(b) Staging and storage areas for equipment, materials, fuels, lubricants, and solvents will be located a minimum of 75 feet outside of the stream/lake channel and banks. Stationary equipment such as motors, pumps, generators, compressors and welders, located within or adjacent to the stream/lake, will be positioned over drip-pans.

(c) Raw cement, concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could

be hazardous to fish or wildlife resulting from Project-related activities, will be prevented from contaminating the soil and/or entering the "Waters of the State".

(d) The Permittee and all contractors shall be subject to the water pollution regulations found in the FGC Sections 5650 and 12015.

2.11 Diversion/Dewatering.

(a) In the event surface water flows are encountered in the channel during Project activities, diversion of water flow shall be required to complete Project activities and the Permittee shall submit a Surface Water Diversion Plan. Water drafting, pumping, or other water diversion shall be done in a manner that is not harmful to fish or other aquatic or semi-aquatic species of wildlife. Pump inflow tubes or hoses shall be contained within a 0.5-millimeter mesh screened cage to exclude all wildlife that may otherwise be harmed in the process.

(b) Any equipment or structures placed in the active channel for water drafting, pumping or diversion shall be done in a manner that a) prevents pollution and/or siltation; b) provides flows to downstream reaches at all times to support aquatic life; c) provides flows of sufficient quality and quantity, and of appropriate temperature to support aquatic life, both above and below the diversion; and d) restores normal flows to the affected stream immediately upon completion of work at each location.

(c) Any dewatering activities shall be done in a manner that prevents pollution and/or siltation of downstream reaches. Infiltrating groundwater removed from excavations shall be pumped to a low-gradient vegetated upland area before discharging into the stream channel. Other filtration methods may be used depending upon site specific conditions. Water pumped to upland areas shall be discharged in a manner as to not cause erosion (i.e., installation of velocity dissipaters at the outfall).

3. Compensatory Measures

To compensate for adverse impacts to fish and wildlife resources identified above that cannot be avoided or minimized, Permittee shall implement each measure listed below.

3.1 Incidental Take. "Incidental take" authorization and associated compensation shall be obtained from DFG if suitable "take" avoidance measures can not be implemented.

3.2 Material and Debris. Excess material and debris shall be removed from the Project site.

3.3 Revegetation and Restoration.

(a) Restoration shall include the revegetation of all disturbed soils and new fill, including recontoured slopes and all other cleared areas, with riparian vegetation or other plants as appropriate. The Permittee shall have a qualified biologist prepare and implement a Riparian Revegetation and Restoration Plan and submit it to the DFG for approval prior to commencement of the proposed work. The Revegetation Plan shall address the following:

- Compensation for removed trees by:
  - Identifying species damaged or removed during Project activities.
  - Describing, how, where, and when replacement shrubs and trees will be planted.
    - Native riparian trees (i.e., willow, cottonwood, poplar, alder, ash, etc.) and shrubs having a DBH of greater than four (4) inches shall be replaced in-kind, at a minimum replacement ratio of 3:1, and planted in the nearest suitable location to the area where they were removed. Trees greater than 24-inches DBH shall be replaced at a minimum 10:1 ratio.
    - Oaks having a DBH of greater than four (4) inches shall be replaced in-kind, at a minimum ratio of 3:1, and planted during the winter dormancy period in the nearest suitable location to the area where they were removed. Trees greater than 24-inches DBH shall be replaced at a minimum 10:1 ratio.
    - Non-native, invasive plant species (such as tamarisk and arundo) may be removed and replaced with native riparian species.
  - Proposing measures to be taken (i.e., irrigation methods if necessary, and maintenance) to ensure a performance criteria of 70 percent survival of planted trees for a period of three (3) consecutive years, and an additional two (2) years without assistance.

(b) If the performance criteria has not been met within five (5) years, then additional years of monitoring shall be required until the performance criteria has been met, regardless of the term of this Agreement.

(c) The Permittee shall submit annually a Restoration Monitoring Report prepared by a qualified biologist. The Restoration Monitoring Report shall be

submitted to the DFG in December of each year until the performance criteria described above is met. The report shall assess the revegetation status, effectiveness of maintenance methods, whether or not the revegetation is expected to achieve the performance criteria, and shall propose additional measures that will be taken to achieve the performance criteria during the next year. Photo documentation of monitoring and maintenance for each year shall be part of the annual reports.

(d) If the Project causes any exposed slopes or exposed areas on the stream banks, these areas shall receive an application of native seed, straw, or mulch. The seeding/mulching shall be completed as soon as possible.

(e) Where suitable vegetation cannot be reasonably expected to become established, non-erodible materials shall be used for such stabilization. Any installation of non-erodible materials not described in the original Project description shall be coordinated with DFG. Coordination may include the negotiation of additional Agreement Provisions for this activity.

3.4 Structures and Recontouring.

(a) Structures and associated materials, not designed to withstand high seasonal flows, shall be removed to areas above the high-water mark before such flows occur.

(b) The Permittee shall remove and recontour any Project-constructed access corridors to the stream bottom to the original contour.

4. Reporting Measures

Permittee shall meet each reporting requirement described below.

4.1 Obligations of the Permittee.

(a) The Permittee shall have primary responsibility for monitoring compliance with all protective measures included as "Measures" in this Agreement. Protective measures must be implemented within the time periods indicated in the Agreement and the program described below.

(b) The Permittee (or the Permittee's designee) shall ensure the implementation of the Measures of the Agreement, and shall monitor the effectiveness of these Measures.

4.2 Reports. The Permittee shall submit the following Reports to DFG:

- Construction/work schedule (Administrative Measure 1.9).
- Results of pre-activity surveys (Avoidance and Minimization Measures 2.3 (b and c)).
- Results of avian surveys for nesting birds if any construction is scheduled during the avian nesting season (Avoidance and Minimization Measure 2.4(b)).
- Construction Period Erosion Prevention and Contingency Plan (Avoidance and Minimization Measure 2.9 (a)).
- Surface Water Diversion Plan (Avoidance and Minimization Measure 2.11 (a)).
- Riparian Revegetation and Restoration Plan (Compensatory Measure 3.3 (a)).
- Annual Restoration Monitoring Report (Compensatory Measure 3.3 (c)).
- A Final Project Report to be submitted within 30 days after the Project is completed. The final report shall summarize the Project-construction, including any problems relating to the protective measures of this Agreement. "Before and after" photo documentation of the Project site shall be required.

CONTACT INFORMATION

Any communication that Permittee or DFG submits to the other shall be in writing and any communication or documentation shall be delivered to the address below by U.S. mail, fax, or email, or to such other address as Permittee or DFG specifies by written notice to the other.

To Permittee:

Dave Flynn
Deputy Director
County of San Luis Obispo Department of Public Works
County Government Center Room 207
San Luis Obispo, California 93408
Office Phone: (805) 781-5252
Fax: (805) 781-1229
dflynn@co.slo.ca.us

To DFG:

Department of Fish and Game
Region 4 – Central Region
1234 East Shaw Avenue
Fresno, California 93710
Attn: Lake and Streambed Alteration Program – Annette Tenneboe
Notification #1600-2011-0105-R4
Phone: (559) 243-4014, ext. 231
Fax: (559) 243-4020
atenneboe@dfg.ca.gov

LIABILITY

Permittee shall be solely liable for any violations of the Agreement, whether committed by Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents or contractors and subcontractors, to complete the Project or any activity related to it that the Agreement authorizes.

This Agreement does not constitute DFG's endorsement of, or require Permittee to proceed with the Project. The decision to proceed with the Project is Permittee's alone.

SUSPENSION AND REVOCATION

DFG may suspend or revoke in its entirety the Agreement if it determines that the Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, is not in compliance with the Agreement.

Before DFG suspends or revokes the Agreement, it shall provide Permittee written notice by certified or registered mail that it intends to suspend or revoke. The notice shall state the reason(s) for the proposed suspension or revocation, provide Permittee an opportunity to correct any deficiency before DFG suspends or revokes the Agreement, and include instructions to Permittee, if necessary, including but not limited to a directive to immediately cease the specific activity or activities that caused DFG to issue the notice.

ENFORCEMENT

Nothing in the Agreement precludes DFG from pursuing an enforcement action against Permittee instead of, or in addition to, suspending or revoking the Agreement.

Nothing in the Agreement limits or otherwise affects DFG's enforcement authority or that of its enforcement personnel.

OTHER LEGAL OBLIGATIONS

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from obtaining any other permits or authorizations that might be required under other Federal, State, or local laws or regulations before beginning the Project or an activity related to it.

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with other applicable statutes in the FGC including, but not limited to, FGC Sections 2050 et seq. (threatened and endangered species), 3503 (bird nests and eggs), 3503.5 (birds of prey), 5050 (fully-protected reptiles), 5650 (water pollution), 5652 (refuse disposal into water), 5901 (fish passage), 5937 (sufficient water for fish), and 5948 (obstruction of stream).

Nothing in the Agreement authorizes Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, to trespass.

AMENDMENT

DFG may amend the Agreement at any time during its term if DFG determines the amendment is necessary to protect an existing fish or wildlife resource.

Permittee may amend the Agreement at any time during its term, provided the amendment is mutually agreed to in writing by DFG and the Permittee. To request an amendment, Permittee shall submit to DFG a completed DFG "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the corresponding amendment fee identified in DFG's current fee schedule (see California Code of Regulations, Title 14, Section 699.5).

TRANSFER AND ASSIGNMENT

This Agreement may not be transferred or assigned to another entity, and any purported transfer or assignment of the Agreement to another entity shall not be valid or effective, unless the transfer or assignment is requested by Permittee in writing, as specified below, and thereafter DFG approves the transfer or assignment in writing.

The transfer or assignment of the Agreement to another entity shall constitute a minor amendment, and therefore to request a transfer or assignment, Permittee shall submit to DFG a completed DFG "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the minor amendment fee identified in DFG's current fee schedule (see California Code of Regulations, Title 14, Section 699.5).

EXTENSIONS

In accordance with FGC Section 1605(b), Permittee may request one (1) extension of the Agreement, provided the request is made prior to the expiration of the Agreement's term. To request an extension, Permittee shall submit to DFG a completed DFG "Request to Extend Lake or Streambed Alteration" form and include with the completed form payment of the extension fee identified in DFG's current fee schedule (see California Code of Regulations, Title 14, Section 699.5). DFG shall process the extension request in accordance with FGC Section 1605(b) through (e).

If Permittee fails to submit a request to extend the Agreement prior to its expiration, Permittee must submit a new notification and notification fee before beginning or continuing the Project the Agreement covers (FGC Section 1605, Subdivision (f)).

EFFECTIVE DATE

The Agreement becomes effective on the date of DFG's signature, which shall be: 1) after Permittee's signature; 2) after DFG complies with all applicable requirements under the California Environmental Quality Act (CEQA); and 3) after payment of the applicable FGC Section 711.4 filing fee listed at http://www.dfg.ca.gov/habcon/ceqa/ceqa_changes.html.

TERM

This Agreement shall remain in effect for five (5) years beginning on the date signed by DFG, unless it is terminated or extended before then. All Provisions in the Agreement shall remain in force throughout its term. Permittee shall remain responsible for implementing any Provisions specified herein to protect fish and wildlife resources after the Agreement expires or is terminated, as FGC Section 1605(a)(2) requires.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) COMPLIANCE

In approving this Agreement, the DFG is independently required to assess the applicability of CEQA. The features of this Agreement shall be considered as part of the overall Project description.

The Permittee's concurrence signature on this Agreement serves as confirmation to the DFG that the activities conducted under the terms of this Agreement are consistent with the Project as described in the Negative Declaration prepared by the County of San Luis Obispo Department of Planning and Building for the Public Works – Arroyo Grande Creek at Rodriquez Road Grade Stabilization Project, 300369 (State Clearinghouse Number 2010111099). The Negative Declaration for the Project was approved by the County of San Luis Obispo Department of Planning and Building on January 01, 2011. A copy of the Notice of Determination was provided to the DFG by the Permittee.

EXHIBITS

The documents listed below are included as exhibits to the Agreement and incorporated herein by reference.

Figure 1. Project Location USGS Quad Map.

AUTHORITY

If the person signing the Agreement (signatory) is doing so as a representative of Permittee, the signatory hereby acknowledges that he or she is doing so on Permittee's behalf and represents and warrants that he or she has the authority to legally bind Permittee to the Provisions herein.

AUTHORIZATION

This Agreement authorizes only the Project described herein. If Permittee begins or completes a Project different from the Project the Agreement authorizes, Permittee may be subject to civil or criminal prosecution for failing to notify DFG in accordance with FGC Section 1602.

CONCURRENCE

The undersigned accepts and agrees to comply with all Provisions contained herein.

FOR PERMITTEE

Dave Flynn — 9/12/11

Dave Flynn
Deputy Director
County of San Luis Obispo
Department of Public Works

Date

FOR DEPARTMENT OF FISH AND GAME

9/21/11

Jeffrey R. Single, Ph.D.
Regional Manager – Central Region

Date

Prepared by Annette Tenneboe
Environmental Scientist

Figure 1

Exhibit A

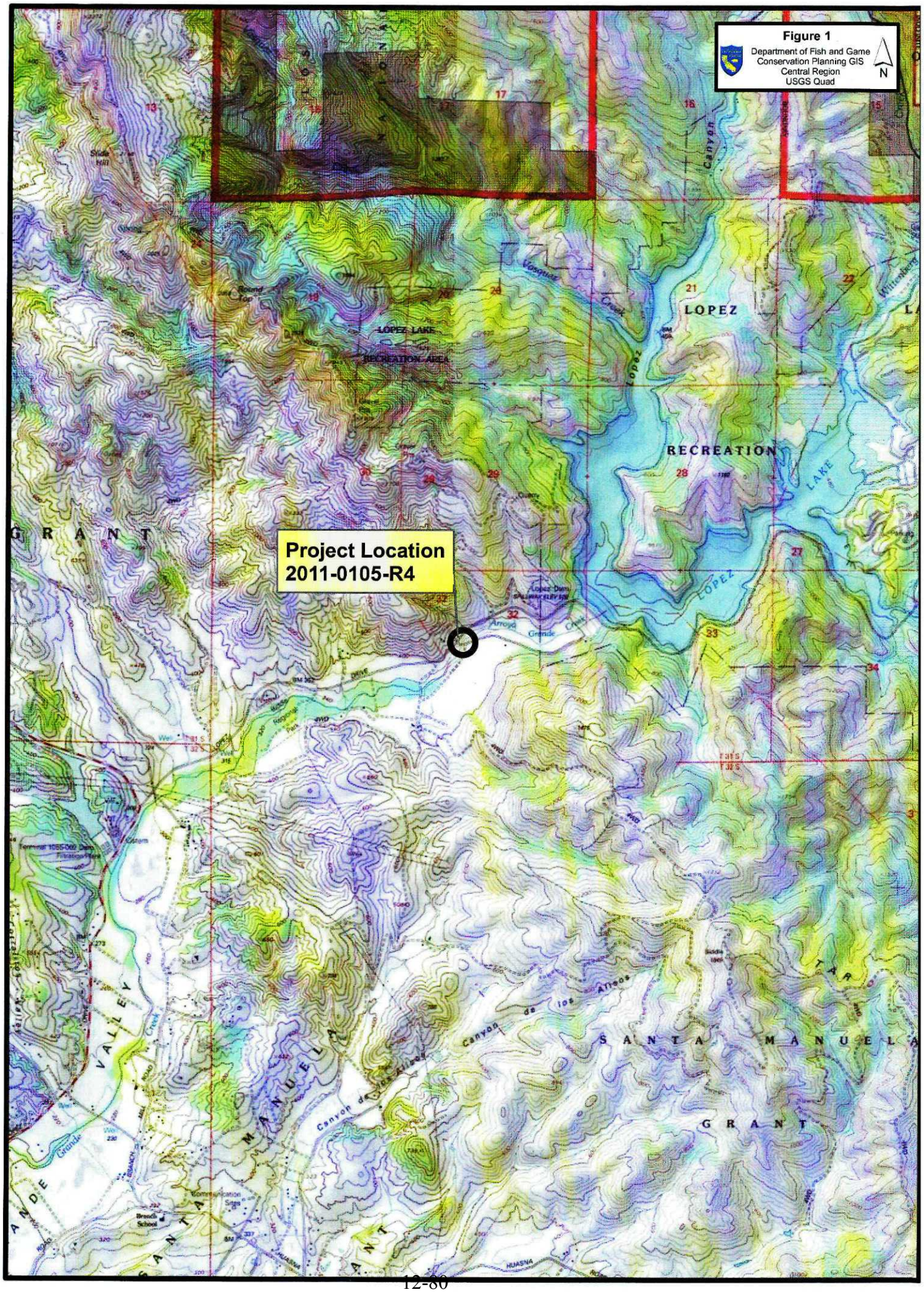
Figure 1
Department of Fish and Game
Conservation Planning GIS
Central Region
USGS Quad
N
Project Location
2011-0105-R4
LOPEZ
RECREATION
LAKE
LOPEZ LAKE
RECREATION AREA
GRANT
SANTA MANUELA
GRANT
VALLEY
Arroyo Grande Creek
Canyon de los Alisos
Lopez Dam
Slide Hill
Round Top
Vaqueros Creek
Lopez Canyon
Kiosk
Branch School
HUASNA

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

IN REPLY REFER TO:
08EVEN00-2012-F-0124

May 9, 2012

Bruce Henderson, Senior Project Manager
North Coast Branch, Los Angeles District
U.S. Army Corps of Engineers
2151 Alessandro Drive, Suite 110
Ventura, California 93001

Subject: Biological Opinion for the Rodriguez Waterline Stabilization Project (SPL-2011-00658-BAH), San Luis Obispo County, California (8-8-12-F-17)

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion based on our review of the U.S. Army Corps of Engineers' (Corps) proposed authorization of San Luis Obispo County (County) to construct a roughened channel in Arroyo Grande Creek downstream of Rodriguez Bridge to protect an existing 20-inch-diameter water pipeline and its effects on the federally endangered least Bell's vireo (*Vireo bellii pusillus*) and the threatened California red-legged frog (*Rana draytonii*), in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act) (16 U.S.C. 1531 et seq.). Your December 28, 2011, request for formal consultation was received on December 30, 2011. Your May 4, 2012, amendment to the request for formal consultation was received on the same day.

This biological opinion is based on information that accompanied your December 28, 2011, request for consultation, including the Rodriguez Road Waterline Crossing Grade Stabilization Project Biological Assessment (County 2011a), Rodriguez Road Waterline Crossing Grade Stabilization Project Habitat Mitigation and Monitoring Plan (County 2011b), Rodriguez Crossing Stabilization Options Technical Recommendations Memorandum (Waterways Consulting 2010), fish passage design plans (Waterways Consulting 2012), correspondence between my staff and the Corps and County, and information in our files. A complete record of this consultation can be made available at the Ventura Fish and Wildlife Office.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The County proposes to stabilize an existing 20-inch water pipeline that crosses Arroyo Grande Creek in San Luis Obispo County, California. The pipeline was constructed in 1969 and since that time, Arroyo Grande Creek has adjusted in response to the altered hydraulic and geomorphic conditions following construction of Lopez Reservoir, resulting in scour and the exposure of the concrete encasement surrounding the pipe. The County is concerned that further incision

downstream of the crossing may result in undermining of the pipeline encasement that may ultimately result in structural failure. The project would eliminate the existing vertical drop of approximately 3 feet at the pipeline encasement that currently acts as a partial passage barrier to adult and juvenile steelhead trout (*Oncorhyncus mykiss*).

The project consists of constructing approximately 200 linear feet of roughened riffle rock structures within the streambed downstream of the pipeline. These structures will be designed to create pools that provide fish passage as well as protect the existing pipeline that is currently partially exposed and prevent additional erosion which threatens to expose the water pipeline further. The roughened riffle segments will be constructed at a steeper grade than the existing bed slope to gradually transition the elevation drop downstream of the crossing and will be shaped into a v-shaped channel to provide passage during times of low flow. Buried rock groins will extend into the banks at the head of each roughened riffle segment, and large immobile boulders will be incorporated to maintain design slopes and provide channel bed stability during flooding events. A pool would be created upstream of each roughened riffle segment. The elevation change from the upstream to downstream end of each pool would be 0.5 foot to meet fish passage guidelines.

The length of disturbed channel would be approximately 157 feet, and would impact approximately 0.62 acre, including 0.26 acre in-channel and 0.36 acre of temporary impact for construction access and grading. An overview of the project area is shown in Figure 1. Work would occur during the dry season (typically May 1 – November 1); however, dewatering would still be necessary. Dewatering would be achieved through the construction of one or more culverts that would be placed in the creek with a minimum of 6 inches of water to facilitate fish passage for as long as possible. Sandbag and visqueen diversion dams would be used to direct flow into the culverts. A secondary diversion dam may be installed to help retain water that leaks through the primary dam. A sump pump would direct water retained between the dams into the culvert mouth. A minimum 5-mm mesh screen would be used to cover the intake. Only clean, non-turbid water would be returned to the creek.

After the channel stabilization activities are completed, the County will implement a riparian revegetation plan described in the Habitat Mitigation and Monitoring Plan (County 2011b). The revegetation plan specifies a minimum of 0.72 acre of riparian habitat restoration and includes measures for site preparation, planting materials, establishment, success criteria, and long-term maintenance of the area for a minimum of 3 years following implementation of the restoration plan. The restoration will consist of hydro-seeding with a native, County-approved, seed mix as well as the installation of willow cuttings and 1 to 5 gallon plants that would be planted along the Arroyo Grande Creek banks. To determine whether revegetation was successful, replacement tree survival must total 4 sycamore trees and 70% of the initially planted stakes.

The County would perform long-term maintenance during the three-year plant establishment period. The County would assess the condition of the trees and other vegetation and compare the survival with goals outlined in the revegetation plan. If appropriate, additional work would be performed to correct any deficiency in plant survival.

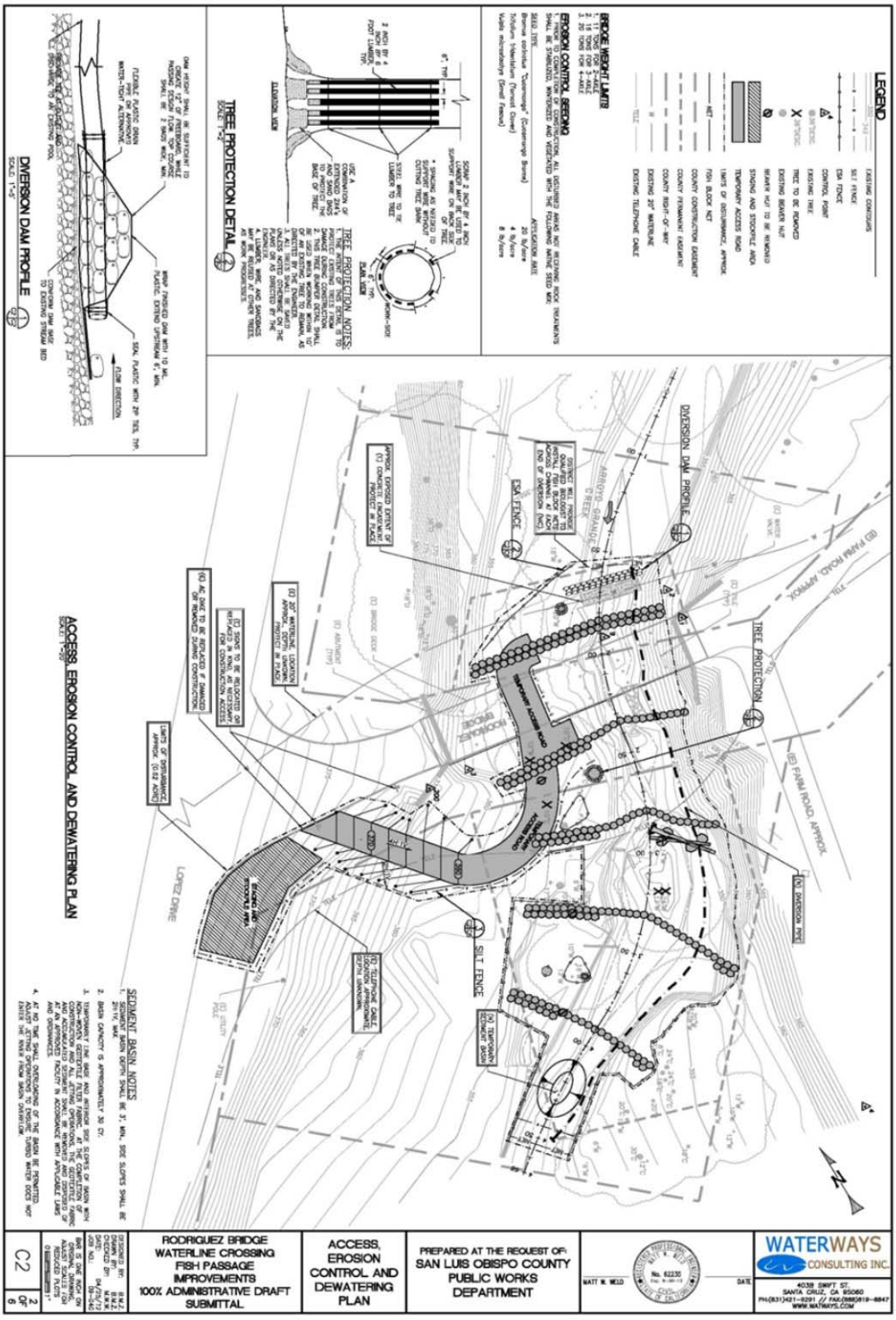

Figure 1. Project overview schematic (Waterways Consulting 2012).

The County has proposed to implement the following measures to minimize the effects of the project on the least Bell's vireo and California red-legged frog:

- A biological monitor will conduct preconstruction surveys for California red-legged frogs in Arroyo Grande Creek and adjacent areas within the project site, relocate California red-legged frogs out of the project area as necessary, conduct construction employee training prior to site disturbance and continue monitoring during the grading and construction activities.

- Only Service-approved biological monitors will be authorized to conduct California red-legged frog relocations. The biological monitor will be present during both the installation and removal of the creek diversion structure.

- The County will conduct one least Bell's vireo survey per week for 4 weeks prior to initiating project activities in order to detect whether the species is nesting or foraging within and adjacent to the project area (K. Drexhage, pers. comm. 2012a).

- Prior to construction, exclusion fencing will be erected by the contractor at the boundaries of all construction areas to avoid equipment and human intrusion into adjacent creek/wetland habitat. The fencing will remain in place throughout construction.

- During project construction, all trash that may attract predators will be property contained, removed from the work site and disposed of regularly.

- To the extent practical, construction activities within or adjacent to Arroyo Grande Creek will be conducted during the dry season (May 1 through November 1).

- Before any construction activities begin, a biologist will conduct a training session for all construction personnel. The training session will include a description of species that may be encountered during construction, the importance of these species, and their habitat, the general measures that are being implemented to conserve these species as they relate to the project, and the boundaries within which the project may be accomplished.

- All fueling and maintenance of vehicles and other equipment and staging areas will occur at least 20 meters (66 feet) from any riparian habitat or water body. The County will ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the County shall ensure that the contractor has prepared a plan to allow a prompt and effective response to accidental spills. All workers will be informed of the importance of preventing spills and the appropriate measures to take should a spill occur.

- During construction, if the work site is to be temporarily dewatered by pumping, intakes will be completely screened with wire mesh not larger than 0.2-inches to prevent California red-legged frogs from entering the pump system. Water will be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion

of construction activities, any barriers to flow will be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

- If construction activities are conducted during the typical nesting season (February 15 – September 15), preconstruction surveys will be conducted by a County-approved biologist prior to any construction activity or vegetation trimming to identify nests of avian species that are not federally listed, and:
    - If active nest sites of bird species protected under the Migratory Bird Treaty Act (MBTA) are observed within the vicinity of the site, then the project will be modified and/or delayed as necessary to avoid direct take of the identified nests, eggs, and/or young.
    - Active nest sites will be documented by a qualified biologist and a letter/report will be submitted to the County and Service documenting project compliance with the MBTA and applicable project mitigation measures.

- A habitat mitigation and monitoring plan will be prepared and will include specific measures for restoration and revegetation of all temporarily disturbed areas. The plan will include protection measures, standards for revegetation, a monitoring program to ensure proper implementation and maintenance of restored areas, and performance criteria to determine success.

ANALYTICAL FRAMEWORK FOR THE JEOPARDY DETERMINATION

The jeopardy analysis in this biological opinion relies on four components: (1) the *Status of the Species*, which describes the range-wide condition of the least Bell's vireo and California red-legged frog, the factors responsible for that condition, and its survival and recovery needs; (2) the *Environmental Baseline*, which analyzes the condition of the least Bell's vireo and California red-legged frog in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the least Bell's vireo and California red-legged frog; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the least Bell's vireo and California red-legged frog; and (4) the *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the least Bell's vireo and California red-legged frog.

In accordance with policy and regulation, the jeopardy determination is made by evaluating the effects of the proposed federal action in the context of the current status of the least Bell's vireo and California red-legged frog, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of the least Bell's vireo and California red-legged frog in the wild.

STATUS OF THE SPECIES

Least Bell's vireo

The least Bell's vireo was federally listed as endangered on May 2, 1986 (51 Federal Register (FR) 16474), and critical habitat was designated for the subspecies on February 2, 1994 (59 FR 4845). The action area is not within critical habitat; therefore, critical habitat will not be discussed further in this biological opinion. A draft recovery plan was completed in 1998 (Service 1998); no final plan has been published. The Service completed a 5-year review for the least Bell's vireo in September 2006 in which we indicated that, due to new information on the species and an improved understanding of ongoing recovery actions to reduce threats, the recovery goals and strategies should be modified and refined. In addition, we recommended that the least Bell's vireo should be downlisted from endangered status to threatened status because of a 10-fold increase in population size since its listing in 1986, expansion of locations with breeding least Bell's vireo throughout southern California, and conservation and management of suitable breeding habitat throughout its range (Service 2006). Additional information on the least Bell's vireo may be found in Wilbur (1980), Garrett and Dunn (1981), Zembal et al. (1985), Miner (1989), Pike and Hays (1992), and Service (1998).

The least Bell's vireo is a small, migratory songbird that nests and forages almost exclusively in riparian woodland habitats. The least Bell's vireo is in the family Vireonidae and is one of four subspecies of Bell's vireo (*Vireo bellii*) that have been recognized (American Ornithological Union (AOU) 1998), with each subspecies isolated from one another throughout the year (Hamilton 1962; Service 1998). They are site-tenacious across breeding seasons, highly territorial, and almost exclusively insectivorous. Least Bell's vireos are obligate riparian breeders, typically inhabiting structurally diverse woodlands along watercourses that feature dense cover within 3 to 6 feet of the ground and a dense, stratified canopy (Goldwasser 1981; Salata 1983; Gray and Greaves 1984; Service 1998). The understory within this riparian habitat is typically dominated by mulefat (*Baccharis salicifolia*), California wild rose (*Rosa californica*), poison oak (*Toxicodendron diversiloba*), sandbar willow (*Salix hindsiana*), young individuals of other willow species, and several perennial species (Service 1998). Important canopy species include mature arroyo willows (*S. lasiolepis*) and black willows (*S. gooddingii*), and occasional cottonwoods (*Populus* spp.), western sycamore (*Platanus racemosa*), or coast live oak (*Quercus agrifolia*). Least Bell's vireos primarily forage and nest in riparian habitat, but they may also use adjoining upland scrub habitat (Salata 1983; Kus and Miner 1989).

Least Bell's vireos primarily feed on invertebrates, especially lepidopteran larvae, within willow stands or associated riparian vegetation (Miner 1989; Brown 1993). Least Bell's vireos occasionally forage in nonriparian vegetation such as coastal sage scrub, chaparral, and oak woodlands, although foraging in these other habitats usually occurs within 100 feet of the edge of riparian vegetation (Salata 1983; Gray and Greaves 1984; Kus and Miner 1989). Least Bell's vireo feeding behavior largely consists of gleaning prey from leaves or woody surfaces while perched or hovering, and less frequently by capturing prey by aerial pursuit (Salata 1983; Miner 1989). Least Bell's vireos concentrate most of their foraging between 0 to 20 feet above ground level (Salata 1983; Miner 1989).

Least Bell's vireos generally arrive in southern California breeding areas by mid-March to early April, with males arriving before females and older birds arriving before first-year breeders (Service 1998). Least Bell's vireos generally remain on the breeding grounds until late September, although some post-breeding migration may begin as early as late July (Service 1998). Male least Bell's vireos establish and defend breeding territories through singing and physically chasing intruders (Barlow 1962; Beck 1996; Service 1998). Although territories typically range in size from 0.5 to 7.5 acres (Service 1998), no relationship appears to exist between territory size and various measures of territory quality (Newman 1992).

Nest building commences a few days after pair formation, with the female selecting a nest-site location and both sexes constructing the nest (Pitelka and Koestner 1942; Barlow 1962; Service 1998). Nests are typically suspended in forked branches within 3 feet above the ground with no clear preference for any particular plant species as the nest host (Nolan 1960; Barlow 1962; Gray and Greaves 1984; Service 1998). Typically 3 or 4 eggs are laid on successive days shortly after nest construction (Service 1998). The eggs are incubated by both parents for about 14 days with the young remaining in the nest for another 10 to 12 days (Pitelka and Koestner 1942; Nolan 1960; Barlow 1962). Each nest appears to be used only once with new nests constructed for each nesting attempt (Greaves 1987). Least Bell's vireos may attempt up to five nests within a breeding season, but they are typically limited to one or two successful nests within a given breeding season (Service 1998).

Multiple long-term monitoring studies indicate that approximately 59 percent of nests successfully produce fledglings, although on average only 1.8 chicks fledge per nest (Service 1998). Although least Bell's vireo nests appear to be more accessible to terrestrial predators because of their relatively low placement (Franzreb 1989), western scrub-jays (*Aphelocoma californica*) have been documented to account for the majority of documented depredation events (Peterson 2002; Peterson et al. 2004); depredation by jays and other avian predators may have selected for relatively low nest placement (Ferree 2002). Predation rates can exceed 60 percent of the least Bell's vireo nests in a given area within a year (Kus 1999), but typical nest predation rates average around 30 percent (Franzreb 1989), which is comparable to predation rates for other North American passerines (Martin and Clobert 1996; Grishaver et al. 1998; Ferree 2002).

Nest parasitism by cowbirds is another major source of failure for least Bell's vireo nests (Franzreb 1989; Service 1998; Kus 1999, 2002; Griffith and Griffith 2000; Sharp 2002); nests that are parasitized are either abandoned or fledge cowbird chicks rather than least Bell's vireos. It is believed that cowbirds did not historically occur within the least Bell's vireo's range, and therefore least Bell's vireos have not evolved adequate defenses to avoid loss of productivity due to parasitism (Franzreb 1989; Kus 2002). Parasitism of least Bell's vireo nests may exceed 42 percent in some locations (Kus 1999), but extensive cowbird trapping and focused nest monitoring can substantially reduce parasitism or its effects (Franzreb 1989; Service 1998; Griffith and Griffith 2000; Kus 2002).

Fledgling least Bell's vireos expand their dispersal distances from about 35 feet the first day to about 200 feet several weeks after fledging (Hensley 1950; Nolan 1960). This distance has been shown to increase to at least 1 mile prior to their first fall migration (Gray and Greaves 1984). Banding records indicate that while most first-year breeding least Bell's vireos return to their natal drainage after winter migration, some disperse considerable distances to other breeding locations (Greaves and Labinger 1997; Service 1998; Kus and Beck 1998). Movement by least Bell's vireos between drainages within San Diego County is not uncommon (Kus and Beck 1998). Additionally, several least Bell's vireos banded as nestlings in San Diego County have been resighted as breeding adults in Ventura County, and the opposite movement from Ventura to San Diego has also been observed (Greaves and Labinger 1997). The maximum dispersal distance currently documented is approximately 130 miles (Service 1998), but this is probably an underestimate due to the limited number of least Bell's vireos that are banded and insufficient re-sighting efforts. Although movement between sites by older birds may occur, site fidelity by least Bell's vireos after the first breeding season is generally high, and most dispersal between sites occurs between the time that least Bell's vireos fledge from their nest and their first breeding season (Service 1998).

The least Bell's vireo historically occupied willow riparian habitats from Tehama County, in northern California, southward to northwestern Baja California, Mexico, and as far east as Owens Valley, Death Valley, and the Mojave River (Grinnell and Miller 1944; Service 1998). Although originally considered to be abundant locally, regional declines of this subspecies were noticeable by the 1940s (Grinnell and Miller 1944), and the least Bell's vireo was believed to have been extirpated from California's Central Valley by the early 1980s (Franzreb 1989). Except for a few outlying pairs, the least Bell's vireo is currently restricted to southern California south of the Tehachapi Mountains and northwestern Baja California (Wilbur 1980; Garrett and Dunn 1981; Franzreb 1989; U.S. Geological Survey (USGS) 2002). The largest current concentrations of least Bell's vireos are in San Diego County along the Santa Margarita River on Camp Pendleton and in Riverside County at the Prado flood control basin (Service 2006).

Historically, the San Joaquin and Sacramento Valleys were considered to be the center of the least Bell's vireo's breeding range (60 to 80 percent of the historic population; 51 FR 16474), but the least Bell's vireo has not yet meaningfully re-colonized those areas. In 2005 and 2006, the first breeding pair of least Bell's vireos detected in the San Joaquin Valley since the listing of the this species successfully bred at the San Joaquin National Wildlife Refuge in Stanislaus County (Service 2006). There have been no sightings of least Bell's vireos in the Sacramento Valley since prior to the listing, and it is unlikely that any breeding least Bell's vireos have occurred within recent years in the Sacramento Valley (Service 2006).

Greater than 99 percent of the remaining least Bell's vireos were concentrated in southern California (Santa Barbara County and southward) at the time of the listing in 1986 (51 FR 16474), with San Diego County containing 77 percent of the population. Greater than 99 percent still remain in southern California, although the populations are now more evenly distributed in southern California with 54 percent of the total population occurring in San Diego County and 30 percent of the population occurring in Riverside County (Service 2006); however, there has

been only a slight shift northward in the species' overall distribution. Thus, despite a significant increase in overall population numbers, the population remains restricted to the southern portion of its historic range (Service 2006).

Giant reed removal has also been initiated within several watersheds within southern California (Natural Resources Conservation Service (NRCS) 2006; Service 2006). In general, giant reed removal has been effective but will require continued annual efforts to achieve local eradications and address new invasions. Although control of giant reed has made great progress since the original listing of the least Bell's vireo, invasions by other exotic plants (e.g., Tamarix species, perennial pepperweed (*Lepidium latifolium*)) continue to degrade existing riparian habitat (Kus and Beck 1998; Hoffman and Zembal 2007).

Draft Recovery Plan for the Least Bell's vireo

The 1998 draft recovery plan for the least Bell's vireo states that the goal of recovery efforts is the reclassification of the subspecies from endangered to threatened and, ultimately, delisting of the subspecies. The draft plan states that reclassification to threatened status may be considered when there are stable or increasing population/metapopulations of least Bell's vireos for a period of 5 consecutive years, each consisting of several hundred or more breeding pairs at the following sites: Tijuana River, Dalzura/Jamul Creek/Otay River, Sweetwater River, San Diego River, San Luis Rey River, Camp Pendleton/Santa Margarita River, Santa Ana River, an Orange County/Los Angeles County metapopulation, Santa Clara River, Santa Ynez River, and an Anza Borrego Desert metapopulation. The draft plan states that each of these populations and metapopulations should be protected and managed.

The draft plan states that delisting of the least Bell's vireo may be considered when the subspecies meets the criterion for downlisting and there are stable or increasing least Bell's vireo population/metapopulations for a period of 5 consecutive years established at the following currently unoccupied areas of the species' historical range: Salinas River, a San Joaquin Valley metapopulation, and a Sacramento Valley metapopulation. The draft plan states that each of these populations and metapopulations should be protected and managed.

Lastly, the draft plan states that threats to the least Bell's vireo at the aforementioned sites should be reduced or eliminated so that these populations/metapopulations are capable of persisting without significant human intervention, or perpetual endowments are secured for cowbird trapping and exotic plant control in riparian habitat occupied by the least Bell's vireos.

The draft recovery plan describes a strategy for reclassification, recovery, and delisting. Instrumental to this strategy is securing and managing riparian habitat within the historical breeding range of the least Bell's vireo, annual monitoring and rangewide surveys, and research activities necessary to monitor and guide the recovery effort.

California red-legged frog

The Service listed the California red-legged frog as threatened on May 23, 1996 (61 FR 25813). In 2006, we finalized a special rule pursuant to section 4(d) of the Act, for existing routine

ranching activities (71 FR 19244). We published a revised designation of critical habitat for this subspecies on March 17, 2010 (75 FR 12816). We completed a recovery plan for the subspecies in 2002 (Service 2002).

Detailed information on the biology of California red-legged frogs can be found in Storer (1925), Stebbins (2003), and Jennings et al. (1992). This species is the largest native frog in the western United States, ranging from 1.5 to 5.1 inches long. The abdomen and hind legs of adults are largely red; the back is characterized by small black flecks and larger irregular dark blotches with indistinct outlines on a brown, gray, olive, or reddish background color. Dorsal spots usually have light centers, and dorsolateral folds are prominent on the back. Tadpoles range from 0.6 to 3.1 inches (1.5 to 79 mm) long and are dark brown and yellow with dark spots.

The California red-legged frog uses a variety of habitat types, including various aquatic systems, riparian, and upland habitats. The diet of California red-legged frogs is highly variable. Hayes and Tennant (1985) found invertebrates to be the most common food item of adults. Vertebrates, such as Pacific tree frogs (*Hyla regilla*) and California mice (*Peromyscus californicus*), represented over half of the prey mass eaten by larger frogs (Hayes and Tennant 1985). Feeding activity probably occurs along the shoreline and on the surface of the water. Hayes and Tennant (1985) found juveniles to be active diurnally and nocturnally, whereas adults were largely nocturnal.

California red-legged frogs breed from November through March; earlier breeding has been recorded in southern localities (Storer 1925). Males appear at breeding sites from 2 to 4 weeks before females (Storer 1925). California red-legged frogs are often prolific breeders, typically laying their eggs during or shortly after large rainfall events in late winter and early spring. Female California red-legged frogs deposit egg masses on emergent vegetation so that the masses float on the surface of the water (Hayes and Miyamoto 1984). Egg masses contain about 2,000 to 5,000 moderately-sized, 0.08 to 0.11 inch (2 to 3 mm) in diameter, dark reddish brown eggs (Storer 1925, Jennings and Hayes 1985). Eggs hatch in 6 to 14 days (Storer 1925). Larvae undergo metamorphosis between 3.5 to 7 months after hatching (Storer 1925, Wright and Wright 1949). Sexual maturity can be attained at 2 years of age by males and 3 years of age by females and is usually reached at 3 to 4 years of age (Jennings and Hayes 1985); adults may live 8 to 10 years (Jennings et al. 1992) although the average life span is considered to be much lower. Juveniles have been observed to be active diurnally and nocturnally, whereas adults are mainly nocturnal.

California red-legged frogs spend most of their lives in and near sheltered backwaters of ponds, marshes, springs, streams, and reservoirs. Deep pools with dense stands of overhanging willows and an intermixed fringe of cattails are considered optimal habitat. California red-legged frogs breed in aquatic habitats. Eggs, larvae, transformed juveniles, and adults also have been found in ephemeral creeks and drainages and in ponds that do not have riparian vegetation. California red-legged frogs frequently breed in artificial impoundments such as stock ponds, if conditions are appropriate. Although California red-legged frogs successfully breed in streams and riparian systems, high seasonal flows and cold temperatures in streams often make these sites risky

environments for eggs and tadpoles. The importance of riparian vegetation for this species is not well understood. When riparian vegetation is present, California red-legged frogs spend considerable time resting and feeding in it; the moisture and camouflage provided by the riparian plant community likely provide good foraging habitat and may facilitate dispersal in addition to providing pools and backwater aquatic areas for breeding. Accessibility to sheltering habitat is essential for the survival of California red-legged frogs within a watershed, and can be a factor limiting population numbers and distribution.

Juvenile and adult California red-legged frogs may disperse long distances from breeding sites throughout the year. They can be encountered living within streams at distances exceeding 1.8 miles (2.9 km) from the nearest breeding site, and have been found up to 400 feet (122 m) from water in adjacent dense riparian vegetation (Bulger et al. 2003). Some California red-legged frogs have moved long distances over land between water sources during winter rains. Adult California red-legged frogs have been documented to move more than 2 mi (3.2 km) in northern Santa Cruz County "without apparent regard to topography, vegetation type, or riparian corridors" (Bulger et al. 2003). Most of these overland movements occur at night. These individual frogs were observed to make long-distance movements that are straight-line, point to point migrations over variable upland terrain rather than using riparian corridors for movement between habitats. For the California red-legged frog, suitable habitat is considered to include all aquatic and riparian areas within the range of the species and includes any landscape features that provide cover and moisture (61 FR 25813).

California red-legged frogs have been found at elevations that range from sea level to about 5,000 feet (1,524 m). In the Sierra Nevada Mountains, California red-legged frogs typically occur below 4,000 feet (1,220 m) in elevation (61 FR 25813).

The historical range of the California red-legged frog extended coastally from southern Mendocino County and inland from the vicinity of Redding, California, southward to northwestern Baja California, Mexico (Jennings and Hayes 1985, Storer 1925). The California red-legged frog has been extirpated or nearly extirpated from 70 percent of its former range. Historically, this subspecies was found throughout the Central Valley and Sierra Nevada foothills. California red-legged frogs have been documented in 46 counties in California. Currently they are known from three disjunct regions and remain in only 238 streams or drainages in 31 counties in California and one region in Baja California, Mexico (Grismer 2002, Fidenci 2004, Smith and Krofta 2005, Service 2010b). The most secure aggregations of California red-legged frogs are found in aquatic sites that support substantial riparian and aquatic vegetation and lack non-native predators. Over-harvesting, habitat loss, non-native species introduction, and urban encroachment are the primary factors that have negatively affected the California red-legged frog throughout its range (Jennings and Hayes 1985, Hayes and Jennings 1988). Habitat loss and degradation, combined with over-exploitation and introduction of exotic predators, were important factors in the decline of the California red-legged frog in the early to mid-1900s. Continuing threats to the California red-legged frog include direct habitat loss due to stream alteration and loss of aquatic habitat, indirect effects of expanding urbanization, competition or predation from non-native species including the bullfrog (*Rana catesbeiana*),

catfish (*Ictalurus* spp.), bass (*Micropterus* spp.), mosquitofish (*Gambusia affinis*), red swamp crayfish (*Procambarus clarkii*), and signal crayfish (*Pacifastacus leniusculus*). Chytrid fungus (*Batrachochytrium dendrobatidis*) is a waterborne fungus that can decimate amphibian populations, and is considered a threat to California red-legged frog populations.

Although the presence of California red-legged frogs is correlated with still water deeper than approximately 1.6 feet (0.5 m), riparian shrubbery, and emergent vegetation (Jennings and Hayes 1985), there are numerous locations in the species' historical range where these elements are well represented yet California red-legged frogs appear to be absent. The cause of local extirpations does not appear to be restricted solely to loss of aquatic habitat. The most likely causes of local extirpation are thought to be changes in faunal composition of aquatic ecosystems (i.e., the introduction of non-native predators and competitors) and landscape-scale disturbances that disrupt California red-legged frog population processes, such as dispersal and colonization. The introduction of contaminants or changes in water temperature may also play a role in local extirpations. These changes may also promote the spread of predators, competitors, parasites, and diseases.

Recovery Plan for the California red-legged frog

The recovery plan for the California red-legged frog identifies eight recovery units (Service 2002). These recovery units are based on the Recovery Team's determination that various regional areas of the species' range are essential to its survival and recovery. The status of this animal is considered within the smaller scale of Recovery Units as opposed to the overall range. These recovery units are delineated by major watershed boundaries as defined by U.S. Geological Survey hydrologic units and the limits of the range of the California red-legged frog. The goal of the recovery plan is to protect the long-term viability of all extant populations within each recovery unit. Within each recovery unit, core areas have been delineated and represent contiguous areas of moderate to high California red-legged frog densities that are relatively free of exotic species such as bullfrogs. The goal of designating core areas is to protect metapopulations that, combined with suitable dispersal habitat, will allow for the long term viability within existing populations. This management strategy will allow for the recolonization of habitat within and adjacent to core areas that are naturally subjected to periodic localized extinctions, thus assuring the long-term survival and recovery of California red-legged frogs. A 5-Year Review of the status of the California red-legged frog was initiated in May 2011, but has not yet been completed.

ENVIRONMENTAL BASELINE

The implementing regulations for section 7(a)(2) of the Act define the "action area" as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 FR 402.02). For the purposes of this biological opinion, we consider the action area to include the entire 0.62 acre within the "limits of disturbance" identified in Figure 1 plus a buffer of 500 feet on all sides, to encompass the stream diversion structures, ground disturbance area, the discharge area for the diversion flows, staging areas and buffer area

where least Bell's vireo nests could be affected by construction noise and activity. The action area will also include locations where California red-legged frogs are relocated.

The project site is located within Arroyo Grande Creek, within the Arroyo Grande Valley, and is characterized by thick vegetative cover in the riparian corridor, surrounded by agricultural fields to the south and rangeland to the north. The project site is situated approximately 0.5 miles below the Lopez Dam and is continually inundated with flowing water due to upstream releases from the dam. The dominant plant species within the project site include black cottonwood trees (*Populus* sp.), shining willow (*Salix lucida*), and poison oak (*Toxicodendron sp.)*. Continual inundation of fresh water and thick vegetative cover contribute to preferential habitat for California red legged frogs and least Bell's vireo. The flow within the project area is generally high with little potential for still water habitat that would be suitable for California red-legged frog breeding. However, during a site visit in Spring 2012, the County identified debris in the channel that has created a pool that is marginally suitable habitat for California red-legged frog breeding (K. Drexhage, pers. comm. 2012b). Several beaver dams have been observed outside of the project area along Arroyo Grande Creek, creating habitat that is also potentially suitable for California red-legged frog breeding.

Least Bell's vireo occurrences and Draft Recovery Plan

The draft recovery plan identified the project area to be within the historic range of the species, but just outside of the present range as it was considered to be in 1998 when the plan was drafted (Service 1998). Since that time, local populations of least Bell's vireo have been expanding and occupying new territory. Because of this expansion, there is the potential that least Bell's vireo may be present within the project area. Occurrences that have been reported to the California Natural Diversity Database (CNDDB) are shown in Figure 2.

The recovery plan identified 14 vireo "population/metapopulation units," which must show stable or increasing populations in order to downlist the least Bell's vireo to threatened status. The Arroyo Grande Creek is not one of the 14 population/metapopulation units; however, if the species were found at the project site, this finding would represent further documentation of the expansion of the range of the species and would represent a significant step towards the recovery of the species.

California red-legged frog occurrences and Recovery Plan

The proposed project occurs within the Central Coast Recovery Unit of the California red-legged frog (Service 2002). The Central Coast Recovery Unit is located along the coastal portions of California between San Francisco and Santa Barbara County. This recovery unit supports the greatest number of currently occupied drainages of the California red-legged frog. The primary conservation needs discussed in the Recovery Plan for the California red-legged frog for the Arroyo Grande Creek Core Area is the restoration of habitat and protection of habitat connectivity (Service 2002).

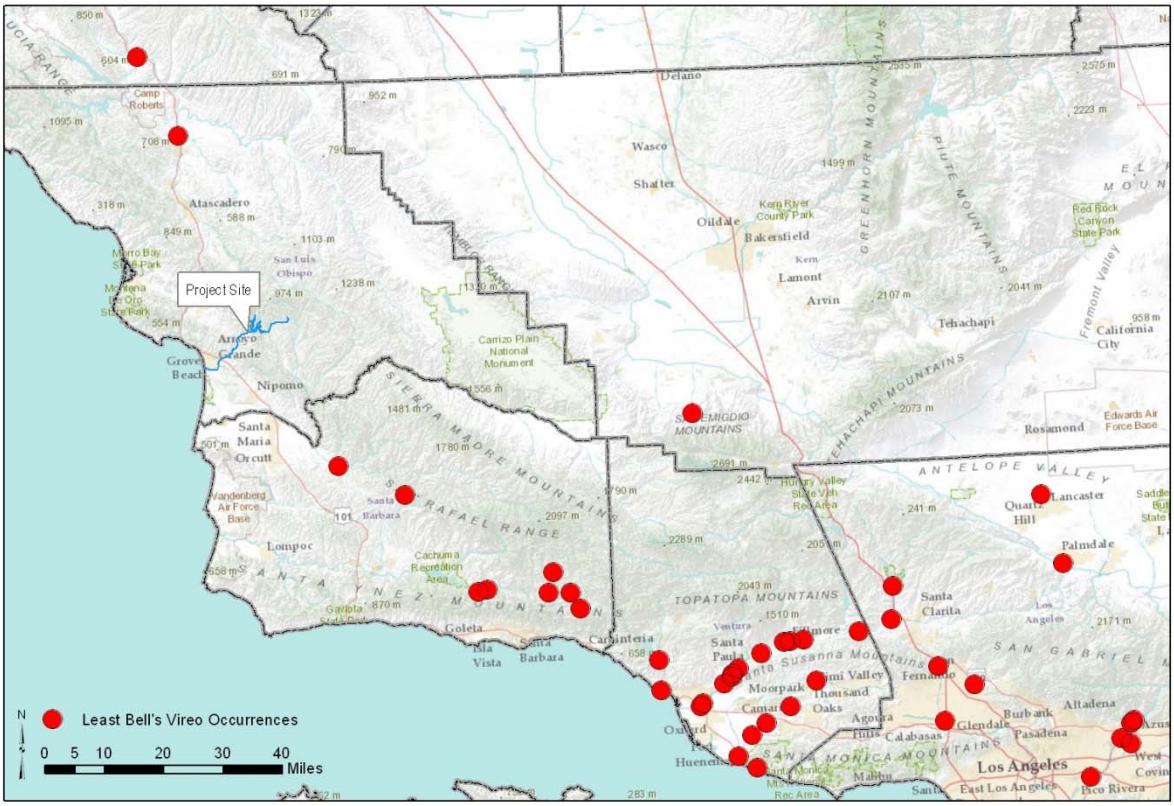

Figure 2. Reported occurrences of least Bell's vireo in the vicinity of the proposed project (CNDDB 2012).

In San Luis Obispo County, California red-legged frogs are found in many streams, stock ponds, dune ponds, and springs on the coastal plain and western slopes of the Santa Lucia Range from San Carpoforo Creek in the north to the Santa Maria River in the South. California red-legged frogs occur in 30 streams in San Luis Obispo County alone (Service 2002; CNDDB 2001; Jennings *in litt.* 1993). There are six core areas within the Central Coast Recovery Unit. The proposed project lies within the Arroyo Grande Creek Core Area. Occurrences of California red-legged frogs that have been reported to the California Natural Diversity Database are shown in Figure 3.

Another source of information about the baseline condition for California red-legged frogs in this portion of Arroyo Grande Creek is documentation associated with the Lopez Dam Seismic Remediation Project that was implemented between 2001 and 2003 by the County (Thompson 2003, Service 2001, CNDDB 2012). The Service conducted a consultation for the project (1-8-00-F-59), and described several suitable breeding ponds in the vicinity of the dam, however only low numbers of California red-legged frogs were found. The California red-legged frog population in the vicinity of the Lopez Dam is thought to be depressed by a large population of bullfrogs (*Rana catesbeianus*). During the construction of the Lopez Dam Seismic Remediation Project, 8 adult and 1 juvenile California red-legged frogs were relocated out of the work area. No California red-legged frogs were found to be dead or injured during project activities. Measures were taken to enhance habitat for California red-legged frog during the Lopez Dam

project, and reduce the population of bullfrogs, therefore California red-legged populations may have increased since that time.

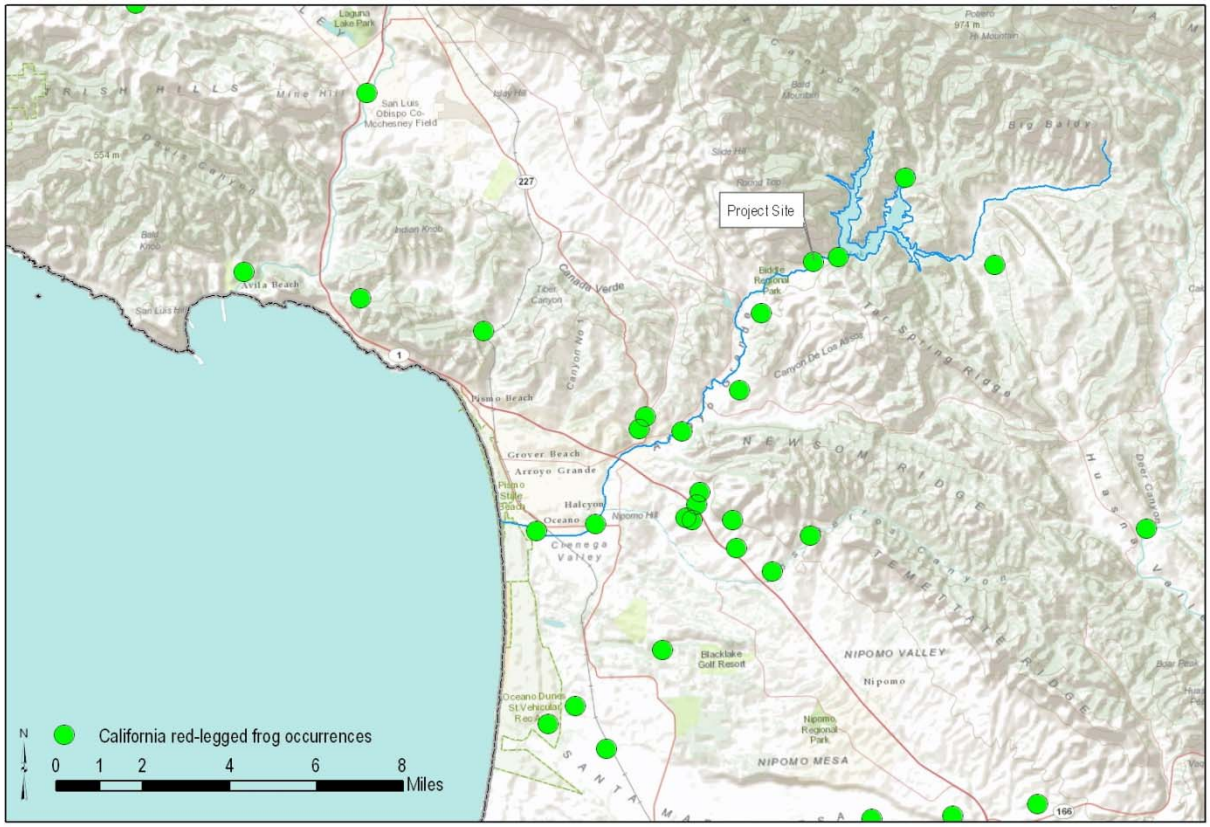

Figure 3. Reported occurrences of California red-legged frogs in the vicinity of the proposed project (CNDDB 2012).

EFFECTS OF THE ACTION

Least Bell's vireo

Least Bell's vireos have not been documented to be nesting within the action area; however, due to recent expansions in the species' range, the project site has the potential to be occupied due to the suitability of this site for nesting and foraging. Project activities may occur partially or fully during the breeding season for the species (March 15 – September 15), thereby creating the potential to injure or kill least Bell's vireo adults, chicks, or eggs. To reduce the potential for these adverse effects, the County has proposed to conduct surveys prior to the initiation of project activities in order to identify any nesting territories within the project area. The County and the Service discussed the appropriate survey effort necessary for this project and determined that 1 survey per week for 4 weeks prior to the initiation of project activities would be sufficient to detect least Bell's vireos within this small project area (K. Drexhage, pers. comm. 2012a). These surveys will facilitate identification of nests in the project area, and will allow the County to implement measures to minimize the effect of the project on the species.

Vegetation removal associated with the project would temporarily reduce the availability of nesting and foraging sites for least Bell's vireos and southwestern willow flycatcher. This reduction of nesting and foraging habitat could adversely affect individual least Bell's vireos by reducing the available resources for individuals' subsequent reproduction. Least Bell's vireos typically return to established breeding territories year after year (Greaves and Labinger 1997, Salata 1983). In a study on the San Diego River (Beck 1996), a banded population of least Bell's vireo generally returned year after year with only minor adjustments in territory location. Further, even temporary loss of habitat may cause the birds to seek out another area in which to nest, either permanently or until the site has been revegetated and restored. When shifting territories, least Bell's vireos could experience decreased fitness due to increased energy and time spent competing for a new territory. A shift in territories could result in a delay in the initiation of nest building, fewer nesting attempts per season, a reduced clutch size per attempt, and an overall reduction in reproductive output. However, due to the small size of the project area and extensive amount of suitable habitat adjacent to the project site, we anticipate that the vegetation removal will not substantially adversely affect the species. Furthermore, as the native vegetation regrows and matures, it is anticipated to provide better nesting and foraging habitat for least Bell's vireos because of an expected increase in diversity of understory species from the current condition, which is dominated by poison oak.

Based on the rage of territory sizes for the least Bell's vireo (0.5 to 7.5 acres) and the total size of the project area (0.62 acre), the proposed project could realistically affect only 1 territory, equating to 2 adults and all of their eggs and/or chicks that are born during the 2012 nesting season. Because of the small size of the project area, and because Arroyo Grande Creek is not known to support the species, the chance for a nest to be located within the action area is low. However, identifying any least Bell's vireos in Arroyo Grande Creek would be highly important to facilitating the further expansion of the species.

Construction noise and the presence of equipment and workers in the vicinity of an active least Bell's vireo nest may cause the adults to temporarily or permanently abandon the nest, thereby reducing the survival of any eggs and chicks. Monitoring and maintenance activities that occur during the nesting season also have the potential to injure or kill least Bell's vireos by flushing birds off of nests, inadvertently knocking nests out of trees, and alerting predators to nest sites.

<u>Recovery of the least Bell's vireo</u>

As described in the draft recovery plan for the least Bell's vireo (Service 1998), the recovery strategy for the species focuses on five tasks: (1) protecting and/or restoring habitat, (2) reducing cowbird nest parasitism, (3) reducing influx of exotic species, (4) researching life histories of the species, and (5) increasing public education about the species (Service 1998). The proposed project supports tasks (1) and (3) through the implementation of a vegetation plan that calls for the use of native species. Furthermore, the surveys that would be conducted in association with this project will provide valuable information about the species presence at the site, which if occupied, could represent a significant step towards further range expansion and recovery. In summary, the action under review has the potential to adversely affect a low number of least

Bell's vireo and would result in the temporary disturbance of only a small amount of suitable habitat.

California red-legged frog

California red-legged frog adults, juveniles, tadpoles and egg masses could be killed or injured by worker foot traffic, vehicles, tools, or heavy machinery during construction and follow-up maintenance of the proposed project. This effect would be minimized by the County's proposal to conduct project activities primarily during the dry season (May 1 – November 1) to the extent possible when California red-legged frog egg masses are less likely to be present and when individuals are less likely to be actively dispersing through habitats. This effect would be further reduced by the proposal to conduct pre-construction surveys and to have a biologist present during grading and construction activities in order to identify California red-legged frogs in the project area. Any California red-legged frogs or egg masses found and determined by the biologist to be at risk would be relocated to a nearby suitable habitat. It is possible that not all California red-legged frogs within the proposed disturbance area would be detected during these surveys, and may be injured or killed despite survey efforts intended to detect their presence.

California red-legged frogs could be injured or killed if they are improperly handled or contained during capture and relocation efforts. Larval amphibians have been shown to be sensitive to latex, nitrile, and vinyl, with latex and nitrile causing up to 100 percent tadpole mortality following only 30 to 90 seconds of direct contact (Cashins et al. 2008). Effects of these materials on adult frogs are less well documented. Rinsed vinyl gloves appear to be the least toxic alternative, when the use of gloves is necessary (Cashins et al. 2008). If gloves containing these products are worn during capture and relocation activities, there is the potential that California red-legged frogs could be injured or killed. Additionally, adverse effects due to handling and relocation could be increased or prolonged if a suitable relocation area is not identified prior to initiating surveys. These threats should be minimized by the County's proposed use of biologists with experience in the capture and relocation of these species.

Records submitted to the CNDDB indicate that in 2001 and 2002 during the retrofit of Lopez Dam, 8 adult and 1 juvenile California red-legged frogs were relocated out of the work area (CNDDB 2012). Due to the close proximity of the proposed project to Lopez Dam, and similarity of habitat in the project area, these data help the estimation of the population order of magnitude, which is likely to be in the tens of individuals as oppose to hundreds.

Relocated California red-legged frogs may be at risk of injury or death through predation or dehydration during an attempt to return to a work area from which they had been moved. This risk may increase with the distance of the relocation site from the work area. California red-legged frogs have been documented to travel as far as 2.2 miles from non-breeding to breeding habitats (Bulger *et al*. 2003). Because the proposed project site contains habitat that is only intermittently and marginally suitable for breeding, it is unlikely that the relocated frogs would attempt to journey back through the project site.

Project activities, especially those that produce noise and vibration, may cause California red-legged frogs to temporarily abandon habitat adjacent to work areas. This disturbance may increase the potential for individual frogs to be preyed upon or to desiccate when they leave shelter sites. We do not expect that California red-legged frogs will attempt to disperse through upland areas, rather frogs would likely seek shelter by moving up or down along the Arroyo Grande Creek corridor. The proposed project is not likely to permanently affect dispersal, or block or degrade links between aquatic sites. Consequently, adverse effects due to noise and vibration associated with the proposed activities are possible, but unlikely to substantially affect California red-legged frogs during the proposed project.

Handling California red-legged frogs, or introducing equipment into occupied habitat, can also result in the spread of chytrid fungus, a pathogen linked to declines in amphibians. Chytrid fungus is a water-borne fungus that can be spread through direct contact between aquatic animals and by a spore that can move short distances through the water. The fungus can decimate amphibian populations, causing fungal dermatitis, which usually results in death in 1 to 2 weeks. Infected animals may spread the fungal spores to other ponds and streams before they die. Once a pond has become infected with chytrid fungus, the fungus stays in the water for an undetermined amount of time. If California red-legged frogs that are relocated during the project are infected with chytrid fungus, they may spread the fungal spores to uninfected individuals in the relocation areas. The County proposes to implement the Declining Amphibian Population Task Force's Code of Practice to reduce the risk of transferring disease or pathogens between aquatic habitats during the course of surveys for and handling of California red-legged frogs.

California red-legged frogs may become trapped in steep-walled holes or trenches that would be constructed during the proposed project. Such features may entrap California red-legged frogs making them vulnerable to desiccation, starvation, and predation and may also be injured or killed by the impact of a fall into a deep excavation.

Trash left during or after project activities could attract predators to work sites, which could, in turn, prey on California red-legged frogs. For example, raccoons are attracted to trash and also prey opportunistically on California red-legged frogs. The County proposes contain and remove all trash that may attract predators from the worksite, thereby reducing the chance of attracting predators.

<u>Recovery of the California red-legged frog</u>
As stated above in the Status of the Species Section, the recovery status of the California red-legged frog is considered within the scale of the Recovery Unit as opposed to the overall range. Because of the varied status of this species and differing levels of threats throughout its range, recovery strategies differ by recovery unit to best meet the goal of delisting the species. The goal of the recovery plan is to protect the long-term viability of all extant populations within each recovery unit. Overall, the strategy for the recovery of the California red-legged frog involves: (1) protecting existing populations by reducing threats; (2) restoring and creating habitat that would be protected and managed in perpetuity; (3) surveying and monitoring populations and

conducting research on the biology and threats to the species; and (4) reestablishing populations of the species within its historical range (Service 2002).

We do not expect the proposed project to substantially affect the conservation of the California red-legged frog within the Central Coast Recovery Unit, in terms of the recovery strategy described in the recovery plan (Service 2002) because:

1. The proposed project would not increase the threats currently impacting the California red-legged frog in the Arroyo Grande Creek core area;

2. The proposed project may increase suitable breeding habitat for the California red-legged frog through creation of additional ponded areas in Arroyo Grande Creek;

3. The proposed project would not preclude our ability to survey and monitor populations of California red-legged frog or conduct research on the biology and threats to the species; and

4. The proposed project would not preclude our ability to reestablish populations of the California red-legged frog within its historical range.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. We are unaware of any other non-Federal actions that are reasonably certain to occur in the action area that are likely to adversely affect the least Bell's vireo or California red-legged frog.

CONCLUSION

After reviewing the current status of least Bell's vireo and California red-legged frog, the environmental baseline for the action area, the effects of the proposed project and the cumulative effects, it is the Service's biological opinion that the Corps' authorization of the County to conduct the Rodriguez Waterline Stabilization Project, as proposed, is not likely to jeopardize the continued existence of the least Bell's vireo and California red-legged frog. We have reached these conclusions because:

Least Bell's vireo

- The potential for the project area to be occupied by least Bell's vireos is low;

- The total size of the project area is small and the number of least Bell's vireos that could potentially be present is low;

- The proposed project will only temporarily affect habitat for least Bell's vireo; and

- The loss of the maximum number of least Bell's vireos anticipated to potentially occupy the project area (2 adults and their offspring) would not substantially affect the overall population.

California red-legged frog

- The project area is only marginally suitable for California red-legged frog breeding, therefore potential for egg masses to occur within the project area is low;

- The total size of the project area is small, and the abundance of predators such as bullfrogs is high, therefore the number of California red-legged frogs that could potentially be present is low;

- The proposed project will only temporarily affect habitat for California red-legged frogs;

- The loss of the maximum number of California red-legged frogs anticipated to potentially occupy the project area would not substantially affect the overall population.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened wildlife species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are non-discretionary, and must be undertaken by the Corps so that they become binding conditions of any grant or permit issued to the County, as appropriate, for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to assume and implement the terms and conditions or (2) fails to require the County to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, the Corps or County must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement. [50 CFR 402.14(i)(3)]

Amount and extent of take for least Bell's vireos
We anticipate that take of least Bell's vireos would be most likely to result from harassment of all adults within the project area and harm or killing of all chicks and eggs within the project area. Based on the size of the disturbance area, habitat conditions, the documented range in territory sizes for least Bell's vireos, and lack of known occurrences within Arroyo Grande Creek, we anticipate that 1 pair of adults (2 individuals) and up to 4 chicks or eggs could be affected by the project activities. If more than one (1) least Bell's vireo nest is found within the project area, such data represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided.

Amount and extent of take for California red-legged frogs
All California red-legged frogs found within the project area may be subject to take in the form of capture during relocation efforts. California red-legged frogs may be injured or killed by improper handling during relocation efforts, by being crushed by workers and equipment conducting project activities, through the spread of pathogens such as chytrid fungus, or may be otherwise injured or killed during construction activities. Numbers and locations of California red-legged frogs within a population vary from year to year. Because the habitat within the project area is only marginally suitable for breeding, there is a limited potential for egg masses to be relocated from the project area. Construction activities are scheduled to occur during the dry season, therefore a limited number of adults, juveniles, and tadpoles may be foraging, sheltering, or dispersing through the project area and would require relocation. By analysis of the baseline conditions, numbers of relocations that have occurred at other project sites in similar habitat, and project activities described above, we estimate that no more than 20 adults and juveniles, 20 tadpoles and 1 eggmass would be relocated during project activities.

Incidental take of the species would be difficult to detect because of their small body size and finding dead or injured specimens is unlikely. Because we anticipate that take is likely to be low and difficult to detect, if more than one (1) California red-legged frog is found dead or injured, or more than twenty (20) adults or juveniles, twenty (20) tadpoles, or one (1) eggmass is relocated, such incidental take represents new information requiring reinitiation of the consultation and review of the reasonable and prudent measures provided. The Corps must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

This biological opinion does not exempt any activity from the prohibitions against take contained in section 9 of the Act that is not incidental to the action as described in this biological opinion. Take that occurs outside of demarcated work areas or from any activity not described in this biological opinion is not exempted from the prohibitions against take described in section 9 of the Act.

REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize the incidental take of least Bell's vireos and California red-legged frogs:

1. No active least Bell's vireo nests will be destroyed and effects on nesting birds must be minimized;

2. Effects to California red-legged frogs from capture and relocation activities must be minimized;

3. Effects to California red-legged frogs during the rainy season must be minimized;

4. Biologists who handle California red-legged frogs must ensure that their activities do not transmit diseases or pathogens.

TERMS AND CONDITIONS

To be exempt from the prohibitions of section 9 of the Act, the Corps must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline reporting and monitoring requirements. These terms and conditions are non-discretionary.

The Service believes that no more than 2 least Bell's vireo adults and 4 least Bell's vireo chicks or eggs and 20 California red-legged frog adult or juvenile, 20 California red-legged frog tadpoles, and 1 California red-legged frog eggmass will be incidentally taken as a result of the proposed action. The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. The Federal agency must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

The following term and condition implements reasonable and prudent measure 1:

a. Only personnel authorized under the auspices of this biological opinion will be considered qualified to detect least Bell's vireos within the project area. The County and the Corps have requested the Service's approval of Eric N. Wier to survey and conduct monitoring activities for least Bell's vireos. We have reviewed Mr. Wier's qualifications and have determined that he has the training and experience required to survey for and monitor least Bell's vireos. The County and the Corps must request our approval of any additional biologists they wish to employ to survey and monitor for least Bell's vireos. The request must be in writing and be received by us at least 15 days prior to any such activities being conducted.

b. If a least Bell's vireo nest is detected within the project area during pre-project surveys, a Service-approved biologist will establish a buffer zone around the nest that they deem sufficient to avoid the abandonment of the nest by the adults. The Service generally recommends a minimum 500 foot buffer around nests where no work is to occur; however, a smaller buffer can be established if deemed protective by the Service-approved biologist. The Service-approved biologist must monitor the nests when activities occur immediately adjacent to buffer zones to determine the effects of project activities on the nesting least Bell's vireos.

The following term and condition implements reasonable and prudent measure 2:

a. Only qualified personnel authorized under the auspices of this biological opinion can survey for, capture, and relocate California red-legged frogs. The County and the Corps have requested the Service's approval of Kate Ballantyne, Katie Drexhage, Eric N. Wier, and John Farhar. We have reviewed Ms. Ballantyne, Ms. Drexhage, Mr. Wier, and Mr. Farhar's qualifications and have determined that they have the training and experience required to survey for, capture and relocate California red-legged frogs and are hereby authorized to independently perform these activities. The County and the Corps must request our approval of any additional biologists they wish to employ to survey for, capture and relocate California red-legged frogs from work areas. The request must be in writing and be received by us at least 15 days prior to any such activities being conducted.

b. Suitable relocation sites for California red-legged frogs must be identified by a Service-approved biologist prior to the initiation of any activities that may require a California red-legged frog to be moved.

c. Any excavations that could act to entrap California red-legged frogs must be covered during night time and weekend periods when active construction is not occurring in order to reduce the chance of capturing and confining red-legged frogs in these features.

d. Latex or nitrile gloves must not be used when handling California red-legged frogs. Clean hands, free of lotions, sun screens, and fragrances are recommended. If gloves are necessary, the use of well-rinsed vinyl gloves is recommended.

The following term and condition implements reasonable and prudent measure 3:

a. If project activities are not completed before the end of the dry season (November 1), no project activities shall occur when the National Oceanic and Atmospheric Administration (http://weather.gov/) projects a 50 percent or greater chance of precipitation within the next 24 hours.

b. Following any precipitation event that the Service-approved biologist(s) considers suitable to stimulate California red-legged frog dispersal, a thorough survey of the project area will be conducted to identify and relocate any California red-legged frogs that may have moved into the project area.

The following term and condition implements reasonable and prudent measure 4:

a. To ensure that diseases are not conveyed between work sites by Service-approved biologists, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force must be followed at all times. A copy of the code of practice is enclosed. The Service-approved biologist may substitute a bleach solution (0.5 to 1.0 cup of bleach to 1.0 gallon of water) for the ethanol solution. Care must be taken so that all traces of the disinfectant are removed before entering the next aquatic habitat.

REPORTING REQUIREMENTS

Pursuant to 50 CFR 402.14(i)(3), the Corps must report the progress of the action and its impact on least Bell's vireos and California red-legged frogs to the Service as specified in this incidental take statement. The following reports are deemed necessary to fulfill this obligation:

1. Upon completion of the least Bell's vireo surveys specified in the project description section, the County or the Corps will submit a survey report indicating whether the species was deemed present (thereby triggering reasonable and prudent measure 1) or absent within the project area. This report may be submitted by electronic mail.

2. Within 90 days of the completion of construction activities, the County or the Corps shall submit a report to the Service that describes all activities that were conducted under the auspices of this biological opinion, including activities that were described in the project description and required under the terms and conditions. The report must document the number of least Bell's vireos and California red-legged frogs that were found, the number that were taken during project activities, and the nature of the taking (e.g., capture, injury, etc.). It must also contain a brief discussion of any problems encountered in implementing minimization measures or terms and conditions and any other pertinent information.

3. After the completion of the revegetation plan, the County or the Corps shall submit annual status reports (as required by the California Department of Fish and Game) that assess the condition of the vegetation, make recommendations for improvement, include information regarding the previous year's maintenance schedule, observations, and vegetation survival counts. The report should also describe the current quality of the habitat for least Bell's vireos and California red-legged frogs.

DISPOSITION OF DEAD OR INJURED SPECIMENS

As part of this incidental take statement and pursuant to 50 CFR 402.14(i)(1)(v), upon locating a dead or injured least Bell's vireo or California red-legged frog, initial notification within three working days of its finding must be made by telephone and in writing to the Ventura Fish and Wildlife Office (805-644-1766). The report must include the date, time, location of the carcass, a photograph, cause of death or injury, if known, and any other pertinent information.

Care must be taken in handling injured animals to ensure effective treatment and care, and in handling dead specimens to preserve biological material in the best possible state. Injured animals must be transported to a qualified veterinarian. Should any treated least Bell's vireo or California red-legged frog survive, the Service should be contacted regarding the final disposition of the animals.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to use their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. Conduct surveys for least Bell's vireo in suitable habitat throughout San Luis Obispo County opportunistically, as any new occurrences of the species represents an important expansion of the range and may facilitate the down-listing of the species.

2. Conduct surveys for California red-legged frogs after the completion of project activities to determine if/how the species is utilizing the newly created habitat.

3. Remove non-native vegetation and predators from the project area when they are encountered;

The Service requests notification of the implementation of any conservation recommendations so we may be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats.

REINITIATION NOTICE

This concludes formal consultation on Corps' proposal to authorize the County of San Luis Obispo to conduct the Rodriguez Waterline Stabilization Project. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, the exemption issued pursuant to section 7(o)(2) will have lapsed and any further take would be a violation of section 4(d) or 9. Consequently, we recommend that any operations causing such take cease pending reinitiation.

If you have any questions regarding this consultation, please contact Jenny Marek of my staff at (805) 644-1766, extension 325.

Sincerely,

Diane Noda
Field Supervisor

cc:
Anthony Spina, National Marine Fisheries Service

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PERSONAL COMMUNICATIONS

Drexhage, K. 2012a. Electronic mail exchange with Jenny Marek, Service biologist, clarifying the minimization measures associated with the project. April 30, 2012.

Drexhage, K. 2012b. Telephone conference with Jenny Marek, Service biologist, Bruce Henderson, Corps Senior Project Manager, Brittany White, NOAA Natural Resource Management Specialist, and others discussing details of the Rodrigues waterline stabilization project. May 2, 2012.

The Declining Amphibian Populations Task Force Fieldwork Code of Practice

1. Remove mud, snails, algae, and other debris from nets, traps, boots, vehicle tires, and all other surfaces. Rinse cleaned items with sterilized (e.g., boiled or treated) water before leaving each work site.

2. Boots, nets, traps, and other types of equipment used in the aquatic environment should then be scrubbed with 70 percent ethanol solution and rinsed clean with sterilized water between study sites. Avoid cleaning equipment in the immediate vicinity of a pond. wetland, or riparian area.

3. In remote locations, clean all equipment with 70 percent ethanol or a bleach solution, and rinse with sterile water upon return to the lab or "base camp" Elsewhere, when washing-machine facilities are available, remove nets from poles and wash in a protective mesh laundry bag with bleach on the "delicates" cycle.

4. When working at sites with known or suspected disease problems, or when sampling populations of rare or isolated species, wear disposable vinyl[1] gloves and change them between handling each animal. Dedicate sets of nets, boots, traps, and other equipment to each site being visited. Clean them as directed above and store separately at the end of each field day.

5. When amphibians are collected, ensure that animals from different sites are kept separately and take great care to avoid indirect contact (e.g., via handling, reuse of containers) between them or with other captive animals. Isolation from unsterilized plants or soils which have been taken from other sites is also essential. Always use disinfected and disposable husbandry equipment.

6. Examine collected amphibians for the presence of diseases and parasites soon after capture. Prior to their release or the release of any progeny, amphibians should be quarantined for a period and thoroughly screened for the presence of any potential disease agents.

7. Used cleaning materials and fluids should be disposed of safely and, if necessary, taken back to the lab for proper disposal. Used disposable gloves should be retained for safe disposal in sealed bags.

The Fieldwork Code of Practice has been produced by the Declining Amphibian Populations Task Force with valuable assistance from Begona Arano, Andrew Cunningham, Tom Langton, Jamie Reaser, and Stan Sessions.

For further information on this Code, or on the Declining Amphibian Populations Task Force, contact John Wilkinson, Biology Department, The Open University, Walton Hall, Milton Keynes, MK7 6AA, UK.
E-mail: DAPTF@open.ac.uk
Fax: +44 (0) 1908-654167

1 Do not use latex gloves. Latex is toxic to amphibians.

California Regional Water Quality Control Board
Central Coast Region

Linda S. Adams
Acting Secretary for Environmental Protection

895 Aerovista Place, Suite 101, San Luis Obispo, California 93401-7906
(805) 549-3147 • Fax (805) 543-0397
http://www.waterboards.ca.gov/centralcoast

Edmund G. Brown Jr.
Governor

July 15, 2011

Dave Flynn
dflynn@co.slo.ca.us
County of San Luis Obispo
Department of Public Works
County Government Center Room 207
1055 Monterey Street
San Luis Obispo, CA 93408

BY ELECTRONIC AND REGULAR MAIL

Dear Mr. Flynn:

AMENDMENT TO WATER QUALITY CERTIFICATION NUMBER 34011WQ09 FOR THE RODRIGUEZ BRIDGE WATERLINE GRADE STABILIZATION PROJECT, SAN LUIS OBISPO COUNTY

The Central Coast Regional Water Quality Control Board issued a water quality certification for the Rodriguez Bridge Waterline Grade Stabilization Project on June 29, 2011. Construction within jurisdictional areas was prohibited beyond October 1 and an Environmental Impact Report (EIR) was listed as the associated CEQA document for the project. On July 6, 2011, we received your request to extend the construction time period to agree with the Department of Fish and Game's allowable construction period, and correct the CEQA document citation associated with the project. The changes to the water quality certification are as follows:

- Attachment 1, page 2, under the Mitigation Requirements section, which previously stated, "*Construction must take place during the dry season, beginning no earlier than June and ending no later than October 1*" is changed to state, "*Construction activities must be completed by October 31, 2011. If a 25% or more chance of rain is predicted within 24 hours, all construction activities must cease and effective erosion and sediment control measures must be implemented. Construction activities may resume after the rain event has passed.*"

- Attachment 1, page 3, under the Status of CEQA Compliance section, which previously stated, "*EIR*" is changed to state, "*Mitigated Negative Declaration.*"

Based on the minor nature of these amendments, we do not expect the revised project to result in additional impacts to water quality or beneficial uses. In addition, all other aspects of the project are to remain as originally proposed. Therefore, we are amending Water Quality Certification No. 34011WQ09 for the Rodriguez Bridge Waterline Grade Stabilization Project to incorporate the changes and conditions above.

If you have questions please contact **Tamara Presser** at (805) 549-3334 or via email at tpresser@waterboards.ca.gov or Phil Hammer at (805) 549-3882. Please mention the above certification number in all future correspondence pertaining to this project.

Sincerely,

for

Roger W. Briggs
Executive Officer

cc:

Katie Drexhage
County of San Luis Obispo
Public Works Department
kdrexhage@co.slo.ca.us

Bruce Henderson
U.S. Army Corps of Engineers
Ventura Office
Regulatory Section
2151 Allesandro Drive, Suite 110
Ventura, CA 93001

Julie Means
California Department of Fish and Game
Lake and Streambed Alteration
1234 East Shaw Avenue
Fresno, CA 93710

401 Program Manager
State Water Resources Control Board
Division of Water Quality
Stateboard401@waterboards.ca.gov

R9-WTR8-Mailbox@epa.gov

S:\Shared\Section 401 Certification\Certifications\San Luis Obispo\2011\Rodriguez Bridge Waterline Grade Stabilization Amendment_final.doc

California Regional Water Quality Control Board
Central Coast Region

895 Aerovista Place, Suite 101, San Luis Obispo, California 93401-7906
(805) 549-3147 • FAX (805) 543-0397
http://www.waterboards.ca.gov/centralcoast

Linda S. Adams
Acting Secretary for Environmental Protection

Edmund G. Brown Jr.
Governor

June 29, 2011

Dave Flynn
dflynn@co.slo.ca.us
County of San Luis Obispo
Department of Public Works
County Government Center Room 207
1055 Monterey Street
San Luis Obispo, CA 93408

BY ELECTRONIC AND REGULAR MAIL

Dear Mr. Flynn:

WATER QUALITY CERTIFICATION NUMBER 34011WQ09 FOR THE RODRIGUEZ BRIDGE WATERLINE GRADE STABILIZATION PROJECT, SAN LUIS OBISPO COUNTY

Thank you for the opportunity to review your May 18, 2011 application for water quality certification of the Rodriguez Bridge Waterline Grade Stabilization Project (Project). The Project appears to protect beneficial uses of State waters. We are issuing the enclosed Standard Letter of Certification.

At this time, we do not anticipate issuing additional requirements based on your application. Should new information come to our attention that indicates a water quality problem, we may require additional monitoring and reporting, issue Waste Discharge Requirements, or take other action.

Your Section 401 Water Quality Certification application and California Environmental Quality Act (CEQA) documents indicate that project activities may affect beneficial uses and water quality. The Central Coast Regional Water Quality Control Board (Central Coast Water Board) issues this certification to protect water quality and associated beneficial uses from project activities. We need reports to determine compliance with this certification. All technical and monitoring reports requested in this certification, or anytime after, are required per Section 13267 of the California Water Code.

Your failure to submit reports required by this certification, or your failure to submit a report of technical quality acceptable to the Executive Officer, may subject you to enforcement action per Section 13268 of the California Water Code. The Central Coast Water Board will base enforcement actions on the date of certification. Any person affected by this Central Coast Water Board action may petition the State Water Resources Control Board (State Board) to review this action in accordance with California Water Code Section 13320; and Title 23, California Code of Regulations, Sections 2050 and 3867-3869. The State Board, Office of Chief Counsel, PO Box 100, Sacramento, CA 95812, must receive the petition within 30 days of the date of this certification. We will provide upon request copies of the law and regulations applicable to filing petitions.

If you have questions please contact **Tamara Presser** at (805) 549-3334 or via email at tpresser@waterboards.ca.gov or Phil Hammer at (805) 549-3882. Please mention the above certification number in all future correspondence pertaining to this project.

Sincerely,

for

Roger W. Briggs
Executive Officer

Enclosure: Action on Request for CWA Section 401 Water Quality Certification

S:\Shared\Section 401 Certification\Certifications\San Luis Obispo\2011\Rodriguez Bridge Waterline Grade Stabilization_final.doc

cc: Enclosures with

Katie Drexhage
County of San Luis Obispo
Department of Public Works
kdrexhage@co.slo.ca.usl

Bruce Henderson
U.S. Army Corps of Engineers
Ventura Office
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401 Program Manager
State Water Resources Control Board
Division of Water Quality
Stateboard401@waterboards.ca.gov

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Action on Request for
Clean Water Act Section 401 Water Quality Certification
for Discharge of Dredged and/or Fill Materials

PROJECT: Rodriguez Bridge Waterline Grade Stabilization Project
APPLICANT: Dave Flynn
County of San Luis Obispo
Department of Public Works
County Government Center Room 207
1055 Monterey Street
San Luis Obispo, CA 93408

ACTION:
1. ■ Order for Standard Certification
2. ☐ Order for Technically-conditioned Certification
3. ☐ Order for Denial of Certification

STANDARD CONDITIONS:

1. This certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment per section 13330 of the California Water Code and section 3867 of Title 23 of the California Code of Regulations (23 CCR).

2. This certification action is not intended to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed per 23 CCR subsection 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license was being sought.

3. The validity of any non-denial certification action (Actions 1 and 2) shall be conditioned upon total payment of the fee required under 23 CCR section 3833, unless otherwise stated in writing by the certifying agency.

4. This certification is subject to the acquisition of all local, regional, state, and federal permits and approvals as required by law. Failure to meet any conditions contained herein or any conditions contained in any other permit or approval issued by the State of California or any subdivision thereof may result in the revocation of this Certification and civil or criminal liability.

5. In the event of a violation or threatened violation of this certification, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for under state law. For purposes of Section 401(d) of the Clean Water Act, the applicability of any state law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this certification.

6. In response to a suspected violation of any condition of this certification, the Central Coast Water Board may require the holder of any permit or license subject to this certification to furnish, under penalty of perjury, any technical or monitoring reports the Central Coast Water Board deems appropriate, provided that the burden, including costs, of the reports shall have a reasonable relationship to the need for the reports and the benefits obtained from the reports.

7. The total fee for this project is $2496 which includes the $640 application fee. The remaining fee payable to the Central Coast Water Board is $0.

CENTRAL COAST WATER BOARD CONTACT PERSON:

Tamara Presser
(805) 549-3334
tpresser@waterboards.ca.gov

Please refer to the above certification number when corresponding with the Central Coast Water Board concerning this project.

WATER QUALITY CERTIFICATION:

I hereby issue an order certifying that any discharge from the Rodriguez Bridge Waterline Grade Stabilization Project shall comply with the applicable provisions of sections 301 ("Effluent Limitations"), 302 ("Water Quality Related Effluent Limitations"), 303 ("Water Quality Standards and Implementation Plans"), 306 ("National Standards of Performance"), and 307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act.

Except insofar as may be modified by any preceding conditions, all certification actions are contingent on (a) the discharge being limited and all proposed mitigation being completed in strict compliance with the applicant's project description and the attached Project Information Sheet, and (b) compliance with all applicable requirements of the Central Coast Water Board's Water Quality Control Plan (Basin Plan).

for June 29, 2011

Roger W. Briggs
Executive Officer
Central Coast Water Board

Date

Attachment 1

PROJECT INFORMATION AND CONDITIONS

Application Date	Received: May 18, 2011 Completed: May 18, 2011
Applicant	Dave Flynn – County of San Luis Obispo Department of Public Works
Applicant Representatives	Katie Drexhage – County of San Luis Obispo Department of Public Works
Project Name	Rodriguez Bridge Waterline Grade Stabilization Project
Application Number	34011WQ09
Type of Project	Pipeline stabilization
Project Location	Huasna Latitude: 35° 11' 06.46" Longitude: 120° 29' 59.43"
County	San Luis Obispo
Receiving Water(s)	Arroyo Grande Creek 310.31 Estero Bay Hydrologic Unit
Water Body Type	Creek
Designated Beneficial Uses	Municipal and Domestic Supply (MUN) Agricultural Supply (AGR) Industrial Process Supply (PROC) Industrial Service Supply (IND) Ground Water Recharge (GWR) Water Contact Recreation (REC-1) Non-Contact Recreation (REC-2) Wildlife Habitat (WILD) Cold Fresh Water Habitat (COLD) Warm Fresh Water Habitat (WARM) Migration of Aquatic Organisms (MIGR) Spawning, Reproduction, and/or Early Development (SPWN) Rare, Threatened or Endangered Species (RARE) Commercial and Sport Fishing (COMM)
Project Description (purpose/goal)	The purpose of the project is to stabilize the pipeline and channel from further destructive scour and enhance migrational fish passage and streambed habitat. The Central Coast Regional Water Quality Control Board (Central Coast Water Board) understands that the project includes the following: • Construction of two roughened riffle segments, composed of engineered streambed material sized to remain stable during 100-year flood events, downstream of Rodriguez Bridge at 2.5 percent slope; • Keying in a weir backing into the streambed on the downside of the waterline crossing to eliminate future scour; • Raising of the streambed elevation at the crossing to a minimum depth of 0.5 feet over the encasement to provide a resting pool for migratory fish; • Construction of a triangular notch in the streambed contour with

	3:1 side slopes to allow fish passage in low flow conditions; • Construction of a 14 foot wide channel base with side slopes tied into the existing channel banks; • Placement of buried rock groins at approximate 35 foot intervals along the length of the modified channel; • Creation of an additional resting pool approximately 70 feet downstream of the crossing with a submerged log structure as well as several stream vegetative soil pockets for habitat enhancement.
Preliminary Water Quality Issues	The Central Coast Water Board finds the project has the potential to cause sedimentation, siltation, and pollutant release to the creek. Erosion could be caused by the construction activities or by the pipeline stabilization project. Pollutants could be released from construction equipment (e.g., oil, gasoline, hydraulic fluid, and other liquid contaminants associated with earth-moving equipment) or from the concrete work associated with the pipeline stabilization project. The Central Coast Water Board finds the project has the potential to adversely impact California coast steelhead, California red-legged frogs, southern pacific pond turtles, coast range newts, two-striped garter snakes, and their habitat.
Mitigation Requirements	<u>Mitigations that are required to comply with 401 Water Quality Certification are as follows:</u> 1. Construction within the jurisdictional areas shall take place only during the dry season, beginning no earlier than June 1 and ending no later than October 1. 2. County of San Luis Obispo must use adequate Best Management Practices (BMPs) (e.g., revegetation, fiber rolls, erosion control blankets, hydromulching, compost, straw with tackifiers, temporary basins) in and around construction areas to intercept rain drop impacts, control the sources of erosion, and capture sedimentation. County of SLO shall implement washout, trackout, and dust control BMPs. 3. County of San Luis Obispo shall apply approved grass seed mixtures with adequate irrigation and soil stabilizers (e.g., compost, hydromulch, tackified straw) and/or erosion control blankets over seeded areas for slope stabilization. 4. Any material stockpiled during construction shall be covered with plastic unless reserved for seed banking, which requires alternative erosion and dust control BMPs. 5. All construction vehicles and equipment used on site must be well maintained and checked daily for fuel, oil, and hydraulic fluid leaks or other problems that could result in spills of toxic materials. 6. County of San Luis Obispo is required to have a spill plan and appropriate spill control and clean up materials (e.g., oil absorbent pads) onsite in case spills occur. 7. County of San Luis Obispo shall confine all trash and debris in appropriate enclosed bins and dispose of the trash and debris

	at an approved site at least weekly. 8. County of San Luis Obispo must designate a staging area for equipment and vehicle fueling and storage at least 100 feet away from waterways, in a location where fluids cannot flow into waterways. 9. All vehicle fueling and maintenance activity shall be at least 100 feet away from waterways, and in designated staging areas. 10. County of San Luis Obispo must submit a stream diversion and dewatering plan for approval 30 days prior to any stream diversion or dewatering. Stream diversion and dewatering shall not occur without approval of the plan by Central Coast Water Board staff. 11. Sand and gravel bags shall be filled only with clean sand and gravel. 12. All post-construction BMPs must be implemented and functioning prior to completion of the project. 13. All construction-related equipment, materials and any temporary BMPs no longer needed are removed and cleaned from the site upon completion of the project. 14. Central Coast Water Board staff must be notified if mitigations as described in the 401 Water Quality Certification application for this project are altered by the imposition of subsequent permit conditions by any local, state or federal regulatory authority. County of SLO must inform Central Coast Water Board staff of any modifications that interfere with compliance with this certification.
Area of Disturbance	Approximately 0.32 acres/290 linear feet Streambed: 0.26 acres/230 linear feet permanent Riparian: 0.06 acres/60 linear feet temporary
Fill/Excavation Area	Approximately 0.26 acres/230 linear feet of permanent fill
Dredge Volume	N/A
U.S. Army Corps of Engineers Permit No	Nationwide Permit 27 – Aquatic Habitat Restoration, Establishment, and Enhancement Activities Nationwide Permit 33 – Temporary Construction, Access and Dewatering
Federal Public Notice	N/A
Dept. of Fish and Game Streambed Alteration Agreement	Streambed Alteration Agreement is pending. Final, signed copy will be forwarded immediately upon execution.
Possible Listed Species	California coast steelhead, California red-legged frogs, southern pacific pond turtles, coast range newts, two-striped garter snakes
Status of CEQA Compliance	EIR Lead Agency: County of San Luis Obispo
Compensatory Mitigation Requirements	<u>The project will include the following:</u> • County of San Luis Obispo shall mitigate 0.32 acres of disturbances to creek and riparian areas at approximately a 2:1 ratio by planting native hydroseed mix, mugwort, California sagebrush, California blackberry, and toyon, over a total area of 0.72 acres.

	• Willows and cottonwoods removed during construction with diameters up to 14 inches shall be replaced at a 3:1 ratio. All other willows shall be replaced at a 10:1 ratio. • All mitigation requirements shall be carried out in accordance with the *Habitat Mitigation and Monitoring Plan* dated May 17, 2011, provided with the County of San Luis Obispo's application.
Total Certification Fee Provided	$2,496
Additional Conditions	Contact Central Coast Water Board staff when project begins to allow for a site visit. Submit a signed copy of the Department of Fish and Game's streambed alteration agreement to the Central Coast Water Board immediately upon execution and prior to any discharge to waters of the State. The Central Coast Water Board requires visual monitoring and three reports for this project: • Visually inspect the site (and at least one reach upstream and downstream of project) after completion of the project and for two subsequent rainy seasons to ensure that the new structures are not causing excessive erosion or other water quality problems. If the project does cause water quality problems, contact the Central Coast Water Board staff member overseeing the project. You will be responsible for obtaining any additional permits necessary for implementing plans for restoration to prevent further water quality problems. • First Report: Within 30 days of project completion, submit a project completion report that contains a summary of daily activities, monitoring and inspection observations, and problems incurred and actions taken; include properly identified post-project photos. • Second and Third Report: Submit annual reports complete with photos of revegetation efforts by December 31 of each monitoring year. Annual reports must quantify growth and progress of restoration and determine to what extent performance criteria have been met. All areas of the revegetation site shall be assessed for percent cover, general health and stature, and signs of reproduction. The report shall also include photographs of revegetation progress over time.

ATTACHMENT A

STRUCTURAL ANALYSIS
LOPEZ DRIVE AT RODRIGUEZ BRIDGE

SWANSON DESIGN ENGINEERING
669 Pacific Street, Suite G, San Luis Obispo, CA 93401
805.440.8624 | info@swansoneng.com

STRUCTURAL ANALYSIS

JOB # 110202

RODRIGUEZ BRIDGE RIFFLE ROCK STRUCTURE PROJECT
LOPEZ DRIVE AT RODRIGUEZ BRIDGE CROSSING
SAN LUIS OBISPO COUNTY, CA

PREPARED FOR :
SAN LUIS OBISPO COUNTY DEPARTMENT OF PUBLIC WORKS
COUNTY GOVERNMENT CENTER, ROOM 207
SAN LUIS OBISPO, CA 93408

REGISTERED PROFESSIONAL ENGINEER
PETER J. SWANSON
NO. 72336
EXP. 06-30-12
3-30-11
CIVIL
STATE OF CALIFORNIA

CONTENTS :

SUMMARY LETTER 1
FIELD REPORT 3
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STRUCTURAL CALCULATIONS 7-11

SWANSON DESIGN ENGINEERING
669 Pacific Street, Suite G, San Luis Obispo, CA 93401
805.440.8624 | info@swansoneng.com

03-30-11
110202-L1

To: San Luis Obispo County
Attn: Tom Trott, PE
Department of Public Works
County Government Center, Room 207
San Luis Obispo, CA 93408

Regarding: Rodriguez Bridge Riffle Rock Structure Project
Lopez Drive at Rodriguez Bridge Crossing
San Luis Obispo County, CA

Mr. Trott:

This letter summarizes the findings of the attached structural package. The package intent is to provide the required description and analysis of the encased pipe crossing mentioned above, in our proposal (110202-P1), and in the county's request for proposal letter dated February 15, 2011. Please find attached, the field report documenting the site visit on March 3, 2011, structural drawings, basis of design and engineering assumptions and structural calculations.

The structural calculations show that the pipe and encasement is most likely capable of resisting all lateral soil and water pressures during the proposed excavation. However, if the soil directly under the encasement should erode or be undermined to any degree during construction, self weight may cause the pipe to become overstressed. Specifically, the calculations show that due to lateral active pressure in its current condition, (and if the proposed excavation were performed) the pipe and encasement are loaded to 34% of their design strength. If the supporting soil were undermined during excavation, the pipe and encasement may be overstressed by over a factor of 3. Undermining is likely to occur during excavation due to the saturated condition of the soil. Any increased vertical deflection in the crossing would result in wider cracks developing along the bottom of the encasement, and thus more water intrusion, and thus faster pipe deterioration.

Although the stated assumptions are reasonable, the sum contribution of variables such as concrete strength, steel grade, pipe size and construction, material deterioration, etc. result in a basis for performing calculations that we would classify as poor to very poor. The dimensions of the encasement are not uniform in any direction and have changed significantly over time. Any splicing method, grade, or wall thickness of pipe may have been used. A lower strength concrete may have been used and may have lost strength due to water intrusion over time. Without extensive testing, It is very difficult to account for the many unknown factors required for analysis.

03-30-11
110202-L1
(Page 2)

Due to the many unknown factors contributing to strength and support, and considering that the pipe and encasement were not designed to be subject to any long duration loading or be used as a retaining structure, we recommend that an alternative plan be implemented to avoid subjecting the encasement to any additional loading. A flow barrier/inhibitor should be constructed downstream to allow soil to build up on both sides of the encasement, protecting from differential active pressures as much as possible.

If the proposed excavation is executed in lieu of some alternative plan, a soils engineer should be consulted to evaluate the risk of undermining the encasement.

Thank you for the opportunity to be of service. Please do not hesitate to contact me with any questions or concerns.

Sincerely,

Peter J. Swanson, P.E.
Principal

SWANSON DESIGN ENGINEERING

BY PJS DATE 3/30/2011
SUBJECT

SHEET No. 3 OF 11
JOB No. 110202
RODRIGUEZ PIPE CROSSING

FIELD REPORT

03-03-11
110202-FR1

To:	SLO County Dpt. of Public Works	Attn:	Tom Trott, PE
	County Government Center, Rm 207	Job #	110202
	San Luis Obispo, CA 93408	Re:	Rodriguez Bridge Riffle Rock Structure

Job Location:	Lopez Drive at Rodriguez Bridge, San Luis Obispo County, CA		
Contractor:		Owner:	
Present:	Tom Trott, Peter Swanson	Weather:	Clear, 73°

The following observations are not intended to substitute or supplement building department inspections. This report does not relieve the contractor of his responsibility to conform to the contract documents.

The following was noted:

1. The pipe encasement was found as described in the RFP just upstream from the Rodriguez Bridge.

2. The encasement was exposed completely on the top and downstream sides, and retaining about 2'-6" of soil and water.

3. Manually using shovels and measuring tape, the encasement was found to be exposed about 38' from bank to bank, about 3' in height and about 7' in width.

4. The creek bed was just above level with the bottom of the concrete encasement.

5. The encasement exhibited signs of significant erosion and deterioration, such as mostly exposed aggregate and rounded and grooved edges at water flow.

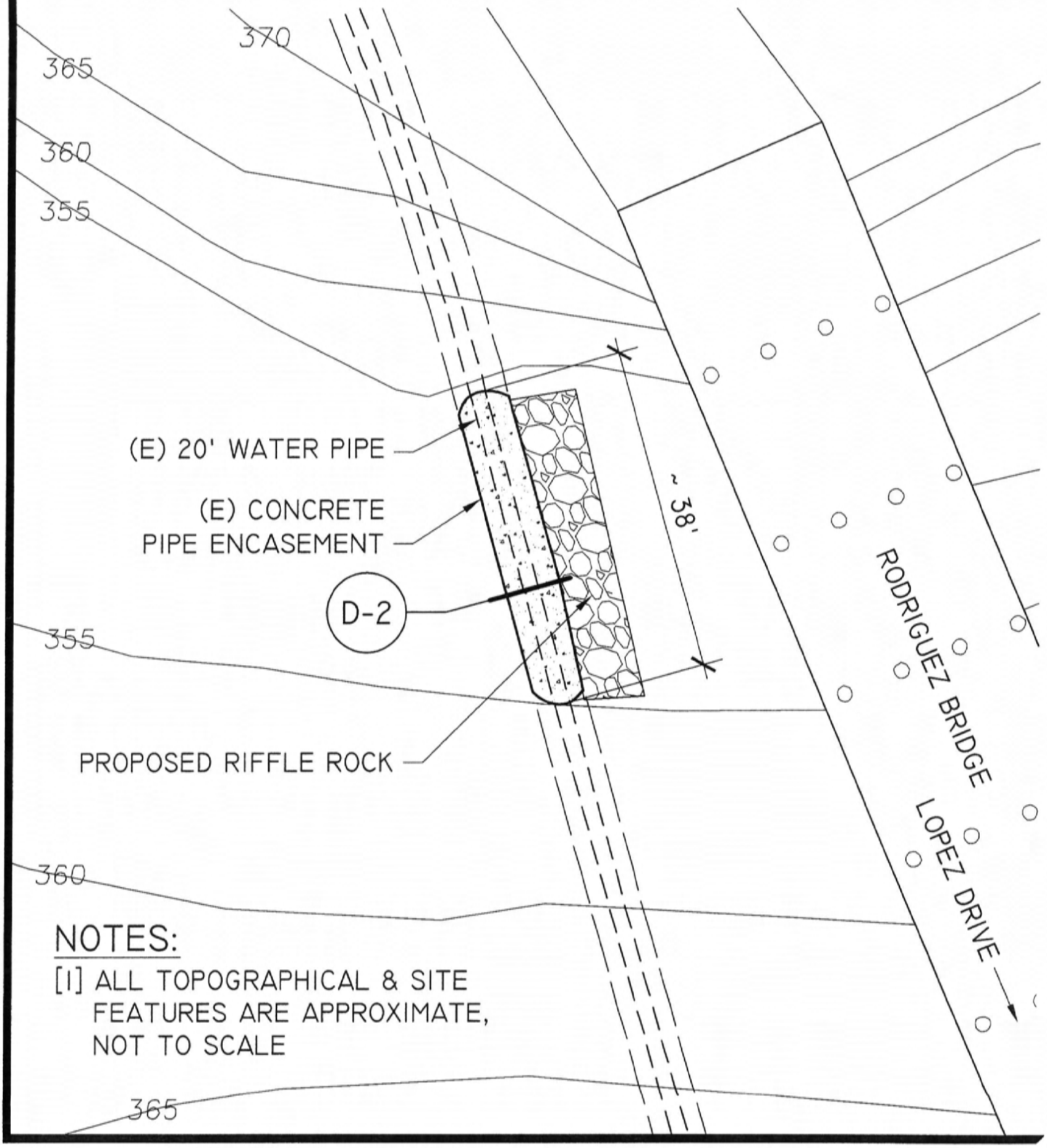
6. The worn and broken locations of the encasement showed no evidence of steel reinforcing.

7. The alluvium around and below the encasement visually appeared to be in saturated or near saturated conditions, and made up of a clay and silt mixture. (A soils engineer would need to be consulted to positively confirm these observations).

SWANSON DESIGN ENGINEERING

BY PJS DATE 3/30/2011
SUBJECT

SHEET No. 4 OF 11
JOB No. 110202
RODRIGUEZ PIPE CROSSING



NOTES:

[1] ALL TOPOGRAPHICAL & SITE FEATURES ARE APPROXIMATE, NOT TO SCALE

KEY PLAN
03-30-11
N.T.S.

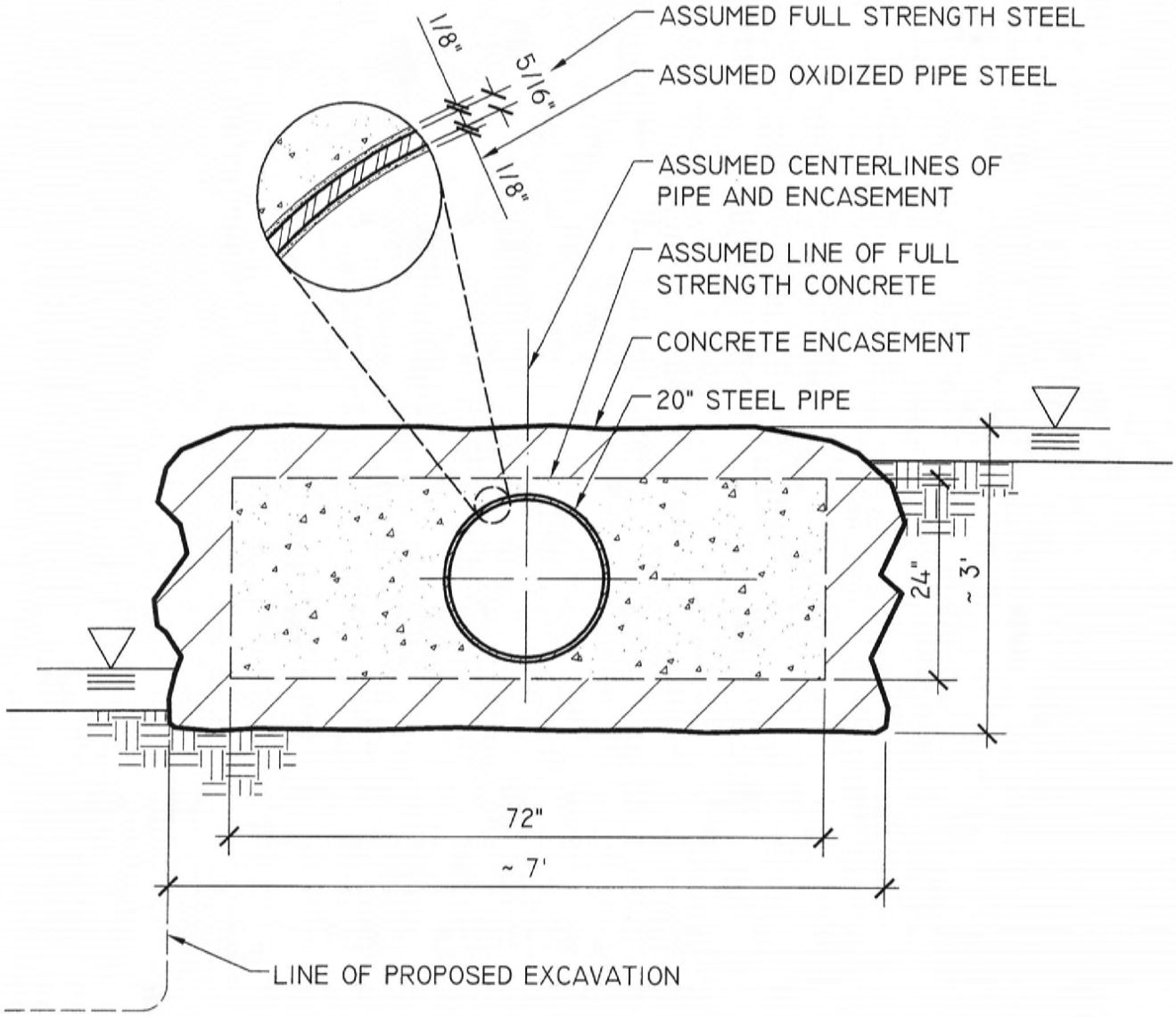
Rodriguez Riffle Rock Project
Lopez Drive
San Luis Obispo County , CA

D-1
110202

SWANSON DESIGN ENGINEERING

BY PJS DATE 3/30/2011
SUBJECT

SHEET No. 5 OF 11
JOB No. 110202
RODRIGUEZ PIPE CROSSING



ENCASEMENT SECTN.
03-30-11
N.T.S.

Rodriguez Riffle Rock Project
Lopez Drive
San Luis Obispo County , CA

D-2
110202

BASIS OF DESIGN AND ENGINEERING ASSUMPTIONS

I. CODE : 2010 CALIFORNIA BUILDING CODE (C.B.C.)

II. LOADS :

A. CRITEREA BASED ON C.B.C. CHAPTER 16
B. NO SEISMIC LOAD IS INCLUDED DUE TO THE TEMPORARY NATURE OF THE LOADING
C. LOAD COMBINATIONS :
STRENGTH DESIGN :
1.2D + 1.2F + 1.6H

III. FOUNDATIONS :

A. DESIGN BASED ON C.B.C. CHAPTER 18
B. ALLOWABLE SOIL BEARING PRESSURE : 1,000 psf
C. ACTIVE SOIL BEARING PRESSURE : 75
D. ALLOWABLE PASSIVE SOIL BEARING PRESSURE : 0
E. A CLAY AND SILT MIXTURE WAS ASSUMED WITH A DRY DENSITY OF 120 PCF
F. SLIDING RESISTANCE FRICTION FACTOR : 0

IV. CONCRETE :

A. DESIGN BASED ON C.B.C. CHAPTER 19
B. STRUCTURAL CONCRETE MINIMUM COMPRESSIVE STRENGTH : 2,000 PSI

V. STRUCTURAL STEEL :

A. PIPE SECTIONS : A53 GRADE B, Fy = 35 ksi

VI. OTHER ASSUMPTIONS :

A. OTHER THAN THE PIPE ITSELF, THE ENCASEMENT IS ASSUMED TO BE UNREINFORCED
B. THAT THE OUTER 6" OF UNEXPOSED ENCASEMENT HAS DETERIORATED BEYOND USABLE COMPRESSIVE STRENGTH
C. THAT ALL PIPE SPLICES ARE FULL PENETRATION WELDS CAPABLE OF TRANSMITTING ALL FORCES IN THE PIPE
D. THAT THE EXISTING PIPE HAS OXIDIZED UP TO 1/8" INSIDE AND 1/8" OUTSIDE BUT IS OTHERWISE TOTALLY INTACT
E. THAT 20" STANDARD STEEL SCHEDULE 40 NOMINAL PIPE SIZE WITH ORIGINAL WALL THICKNESS OF 0.593" WAS USED, (AN EQUVALENT AREA OF STEEL REINFORCING IS USED FOR ANALYSIS)
F. THAT THE ENCASEMENT CAN ACHIEVE THE STATICAL EQUVALENT OF PINNED SUPPORT AT 12' OF EMBEDMENT INTO THE CREEK BANK

VII. NOTES :

A. TO POSITIVELY VERIFY SOIL SUPPORT, ACTIVE PRESSURE, SOIL PROPERTIES, AND RISK OF UNDERMINING, A SOILS ENGINEER'S CONSULTATION WOULD BE REQUIRED
B. TO POSITIVILEY VERIFY PIPE WALL THICKNESS & CONDITION, PIPE LOCATION, PIPE CONSTRUCTION, AND CONCRETE STRENGTH, ULTRASONIC, RADIOGRAPHIC AND/OR CORE TESTING WOULD BE REQUIRED

SWANSON DESIGN ENGINEERING

BY PJS DATE 3/30/2011
SUBJECT

SHEET No. 7 OF 11
JOB No. 110202
RODRIGUEZ PIPE CROSSING

ACTIVE PRESSURE LOAD ANALYSIS

Retain Pro 2007 , 24-Jul-2008, (c) 1989-2008
www.retainpro.com/support for latest release
Registration # : RP-1182805 RP2007-R

Criteria

Retained Height	=	2.50 ft
Wall height above soil	=	0.00 ft
Slope Behind Wall	=	0.00 : 1
Height of Soil over Toe	=	0.00 in
Water height over heel	=	2.5 ft
Wind on Stem	=	0.0 psf

Vertical component of active lateral soil pressure options:
NOT USED for Soil Pressure.
NOT USED for Sliding Resistance.
NOT USED for Overturning Resistance.

Soil Data

Allow Soil Bearing	=	1,000.0 psf
Equivalent Fluid Pressure Method		
Heel Active Pressure	=	75.0 psf/ft
Toe Active Pressure	=	0.0 psf/ft
Passive Pressure	=	0.0 psf/ft
Soil Density, Heel	=	120.00 pcf
Soil Density, Toe		120.00 pcf
Footing||Soil Friction	=	0.000
Soil height to ignore for passive pressure	=	12.00 in

Footing Dimensions & Strengths

Toe Width	=	0.00 ft
Heel Width	=	6.00
Total Footing Width	=	6.00
Footing Thickness	=	12.00 in
Key Width	=	0.00 in
Key Depth	=	0.00 in
Key Distance from Toe	=	0.00 ft

f'c = 2,000 psi Fy = 35,000 psi
Footing Concrete Density = 150.00 pcf
Min. As % = 0.0018
Cover @ Top = 2.00 in @ Btm.= 3.00 in

Surcharge Loads

Surcharge Over Heel	=	0.0 psf
Used To Resist Sliding & Overturning		
Surcharge Over Toe	=	0.0 psf
Used for Sliding & Overturning		

Lateral Load Applied to Stem

Lateral Load	=	0.0 #/ft
...Height to Top	=	0.00 ft
...Height to Bottom	=	0.00 ft

Adjacent Footing Load

Adjacent Footing Load	=	0.0 lbs
Footing Width	=	0.00 ft
Eccentricity	=	0.00 in
Wall to Ftg CL Dist	=	0.00 ft
Footing Type		Line Load
Base Above/Below Soil at Back of Wall	=	0.0 ft
Poisson's Ratio	=	0.300

Axial Load Applied to Stem

Axial Dead Load	=	0.0 lbs
Axial Live Load	=	0.0 lbs
Axial Load Eccentricity	=	0.0 in

Design Summary

Wall Stability Ratios

Overturning	=	13.44 OK
Sliding	=	0.00 UNSTABLE!
Total Bearing Load	=	3,150 lbs
...resultant ecc.	=	2.68 in
Soil Pressure @ Toe	=	642 psf OK
Soil Pressure @ Heel	=	408 psf OK
Allowable	=	1,000 psf
Soil Pressure Less Than Allowable		
ACI Factored @ Toe	=	771 psf
ACI Factored @ Heel	=	489 psf
Footing Shear @ Toe	=	0.0 psi OK
Footing Shear @ Heel	=	0.0 psi OK
Allowable	=	67.1 psi

Sliding Calcs (Vertical Component NOT Used)

Lateral Sliding Force	=	602.7 lbs
less 0 % Passive Force	= -	0.0 lbs
less 0 % Friction Force	= -	0.0 lbs
Added Force Req'd	=	602.7 lbs NG
....for 1.5 : 1 Stability	=	0.0 lbs OK

Load Factors

Dead Load	1.200
Live Load	1.600
Earth, H	1.600
Wind, W	1.600
Seismic, E	1.000

Stem Construction

Top Stem

Stem OK

Design Height Above Ftg	ft =	0.00
Wall Material Above "Ht"	=	Concrete
Thickness	=	72.00

Design Data

fb/FB + fa/Fa	=	**0.019**
Total Force @ Section	lbs =	492.0
Moment....Actual	ft-# =	410.0
Moment.....Allowable	=	21,482.0
Shear.....Actual	psi =	1.1
Shear.....Allowable	psi =	67.1
Wall Weight	=	900.0

Concrete Data

f'c	psi =	2,000.0
Fy	psi =	40,000.0

ACTIVE PRESSURE LOAD ANALYSIS (CONT.)

Retain Pro 2007 , 24-Jul-2008, (c) 1989-2008
www.retainpro.com/support for latest release
Registration # : RP-1182805 RP2007-R

Footing Design Results

		Toe	Heel
Factored Pressure	=	771	489 psf
Mu' : Upward	=	0	0 ft-#
Mu' : Downward	=	0	0 ft-#
Mu: Design	=	0	0 ft-#
Actual 1-Way Shear	=	0.00	0.00 psi
Allow 1-Way Shear	=	0.00	0.00 psi
Toe Reinforcing	=	None Spec'd	
Heel Reinforcing	=	None Spec'd	
Key Reinforcing	=	None Spec'd	

Other Acceptable Sizes & Spacings
Toe: Not req'd, Mu < S * Fr
Heel: Not req'd, Mu < S * Fr
Key: No key defined

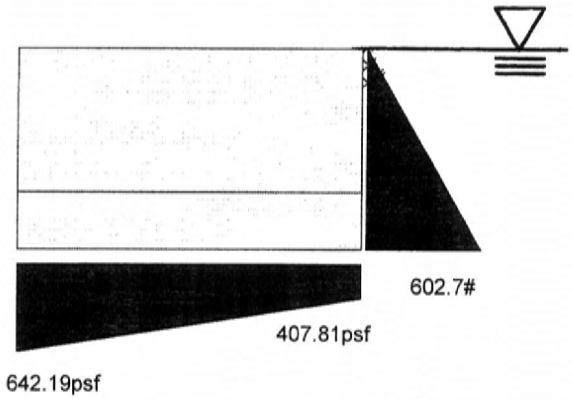
Summary of Overturning & Resisting Forces & Moments

Item		.....OVERTURNING..... Force lbs	Distance ft	Moment ft-#
*Heel Active Pressure	=	602.7	1.17	703.2
Surcharge over Heel	=			
Toe Active Pressure	=			
Surcharge Over Toe	=			
Adjacent Footing Load	=			
Added Lateral Load	=			
Load @ Stem Above Soil	=			
Total	=	602.7	**O.T.M.** =	703.2

Resisting/Overturning Ratio = **13.44**
Vertical Loads used for Soil Pressure = 3,150.0 lbs
Vertical component of active pressure NOT used for soil pressure
*Includes water table effect

		.....RESISTING..... Force lbs	Distance ft	Moment ft-#
Soil Over Heel	=		6.00	
Sloped Soil Over Heel	=			
Surcharge Over Heel	=			
Adjacent Footing Load	=			
Axial Dead Load on Stem	=			
* Axial Live Load on Stem	=			
Soil Over Toe	=			
Surcharge Over Toe	=			
Stem Weight(s)	=	2,250.0	3.00	6,750.0
Earth @ Stem Transitions	=			
Footing Weight	=	900.0	3.00	2,700.0
Key Weight	=			
Vert. Component	=			
Total =		3,150.0 lbs	**R.M.=**	9,450.0

* Axial live load NOT included in total displayed, or used for overturning resistance, but is included for soil pressure calculation.



Concrete Beam

Lic. # : KW-06008433 Licensee :

Description : Pipe and Encasement (Lateral Active Pressure)

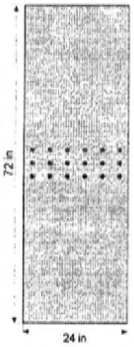
Material Properties

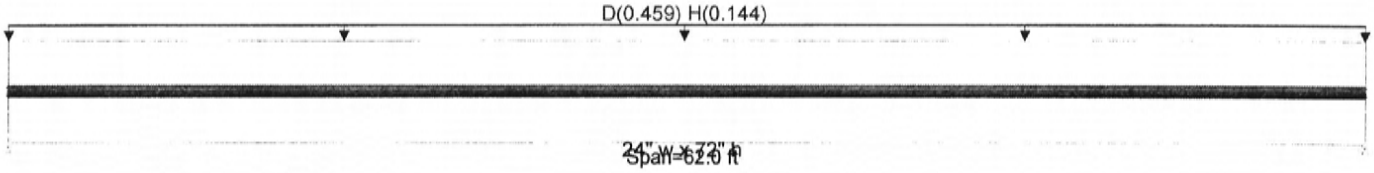
f'c	= 2.0 ksi	ϕ Phi Values	Flexure :	0.90
fr = f'c$^{1/2}$ * 7.50	= 335.41 psi		Shear :	0.750
ψ Density	= 145.0 pcf	β_1	=	0.850
Elastic Modulus	= 3,122.0 ksi			

Load Combination 2006 IBC & ASCE 7-05

fy - Main Rebar	= 35.0 ksi	Fy - Stirrups	= ksi
E - Main Rebar	= 29,000.0 ksi	E - Stirrups	= 29,000.0 ksi
		Stirrup Bar Size #	# 3

Number of Resisting Legs Per Stirrup =





Cross Section & Reinforcing Details

Rectangular Section, Width = 24.0 in, Height = 72.0 in

Span #1 Reinforcing....

6-#8 at 36.0 in from Top, from 0.0 to 62.0 ft in this span

6-#8 at 33.0 in from Top, from 0.0 to 62.0 ft in this span

6-#8 at 33.0 in from Bottom, from 0.0 to 62.0 ft in this span

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Load for Span Number 1

Uniform Load : D = 0.4590, H = 0.1440 k/ft, Tributary Width = 1.0 ft, (Soil & Hydro Pressure)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	**0.336** : 1
Section used for this span		**Typical Section**
Mu : Applied		375.37 k-ft
Mn * Phi : Allowable		1,116.12 k-ft
Load Combination		+1.20D+0.50Lr+1.60L+1.60H
Location of maximum on span		31.000 ft
Span # where maximum occurs		Span # 1

Maximum Deflection

Max Downward L+Lr+S Deflection	0.000 in	Ratio =	0 <360
Max Upward L+Lr+S Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	0.065 in	Ratio =	11373
Max Upward Total Deflection	0.000 in	Ratio =	999 <180

Vertical Reactions - Unfactored

Support notation : Far left is #1

Load Combination	Support 1	Support 2
Overall MAXimum	14.229	14.229
D Only	14.229	14.229
H Only	4.464	4.464

Shear Stirrup Requirements

Entire Beam Span Length : Vu < PhiVc/2, Req'd Vs = Not Reqd, use stirrups spaced at 0.000 in

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Location (ft) in Span	Bending Stress Results (k-ft) Mu : Max	Phi*Mnx	Stress Ratio
MAXimum BENDING Envelope					
Span # 1	1	31.000	375.37	1,116.12	0.34
+1.40D					
Span # 1	1	31.000	308.77	1,116.12	0.28
+1.20D+0.50Lr+1.60L+1.60H					
Span # 1	1	31.000	375.37	1,116.12	0.34
+1.20D+1.60L+0.50S+1.60H					
Span # 1	1	31.000	375.37	1,116.12	0.34
+0.90D+1.60W+1.60H					

Concrete Beam

Description : Pipe and Encasement (Lateral Active Pressure)

Load Combination Segment Length	Span #	Location (ft) in Span	Bending Stress Results (k-ft) Mu : Max	Phi*Mnx	Stress Ratio
Span # 1	1	31.000	309.20	1,116.12	0.28
+0.90D+E+1.60H					
Span # 1	1	31.000	309.20	1,116.12	0.28

Overall Maximum Deflections - Unfactored Loads

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
D Only	1	0.0654	30.380		0.0000	0.000

Concrete Beam

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ENERCALC, INC. 1983-2011, Ver: 6.0.27, N:55361
Lic. # : KW-06008433 Licensee :

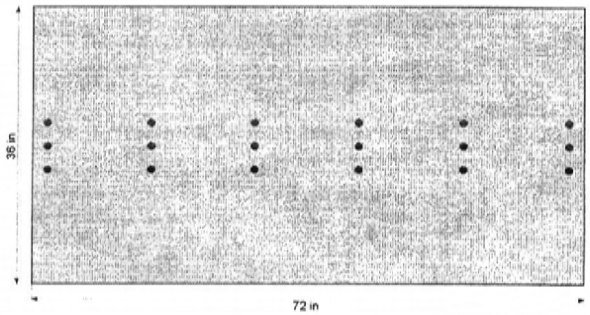
Description : Pipe and Encasement (Self Weight)

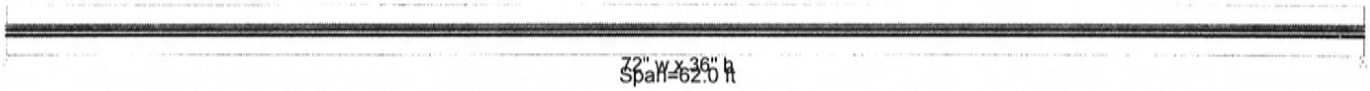
Material Properties

f'c	=	2.0 ksi	ϕ Phi Values	Flexure :	0.90
fr = f'c$^{1/2}$ * 7.50	=	335.41 psi		Shear :	0.750
ψ Density	=	145.0 pcf	β_1	=	0.850
Elastic Modulus	=	3,122.0 ksi			

Load Combination 2006 IBC & ASCE 7-05

fy - Main Rebar	=	35.0 ksi	Fy - Stirrups	=	ksi
E - Main Rebar	=	29,000.0 ksi	E - Stirrups	=	29,000.0 ksi
			Stirrup Bar Size #		# 3
			Number of Resisting Legs Per Stirrup =		





Cross Section & Reinforcing Details

Rectangular Section, Width = 72.0 in, Height = 36.0 in
Span #1 Reinforcing....
6-#8 at 18.0 in from Top, from 0.0 to 62.0 ft in this span
6-#8 at 15.0 in from Top, from 0.0 to 62.0 ft in this span
6-#8 at 15.0 in from Bottom, from 0.0 to 62.0 ft in this span

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loads

DESIGN SUMMARY

Design N.G.

Maximum Bending Stress Ratio =	**2.946** : 1	
Section used for this span	**Typical Section**	
Mu : Applied	1,755.75 k-ft	
Mn * Phi : Allowable	596.0 k-ft	
Load Combination	+1.40D	
Location of maximum on span	31.000ft	
Span # where maximum occurs	Span # 1	

Maximum Deflection

Max Downward L+Lr+S Deflection	0.000 in	Ratio =	0 <360
Max Upward L+Lr+S Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	8.616 in	Ratio =	86 <180
Max Upward Total Deflection	0.000 in	Ratio =	999

Vertical Reactions - Unfactored

Support notation : Far left is #1

Load Combination	Support 1	Support 2
Overall MAXimum	80.910	80.910
D Only	80.910	80.910

Shear Stirrup Requirements

Entire Beam Span Length : PhiVc/2 < Vu <= PhiVc, Req'd Vs = Not Reqd 11.5.6.1, use stirrups spaced at 0.000 in

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Location (ft) in Span	Bending Stress Results (k-ft) Mu : Max	Phi*Mnx	Stress Ratio
MAXimum BENDING Envelope					
Span # 1	1	31.000	1,755.75	596.00	2.95
+1.40D					
Span # 1	1	31.000	1,755.75	596.00	2.95

Overall Maximum Deflections - Unfactored Loads

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
D Only	1	8.6162	30.380		0.0000	0.000