AGREEMENT FOR TULOCAY CREEK BICYCLE/PEDESTRIAN BRIDGE PROJECT (BR14PW03)

This Agreement ("Agreement") by and between the City of Napa, (hereinafter "City") and G.D. Nielson Construction, Inc. (hereinafter "Contractor") is dated this _____ day of _____, 2015.

1. Contractor hereby agrees to complete all project planning, survey, physical investigations, design, and construction documents; and to furnish all tools, equipment, labor and material necessary to perform and complete in a good and workman-like manner, the design and construction of the Tulocay Creek Bicycle/Pedestrian Bridge ("the Project") within the time set forth and in accordance with the Scope of Work attached to this Agreement as Exhibit A. The following documents and all subparts in their entirety are hereby made a part of the complete Agreement: this Agreement, Scope of Work (Exhibit A,), Special Provisions (Exhibit B), bonds, design documents including specifications and detailed drawings to be prepared by the Contractor, description of Deliverables and Performance (Exhibit C), Project Compensation (Exhibit D), Concept Plan and Hydraulic Analysis (Exhibit E), Environmental Permits (Exhibit F), the Request for Proposal issued by the City dated August 15, 2014 including four addendums, proposal by the G.D. Nielson dated September 25, 2014 and all other documents on file in the office of the City Clerk of City relating to this Project ("the Contract Documents"). The intent of the Contract Documents is for the Contractor to deliver the Project ready for use when completed. The Contractor shall accomplish and complete all work described in Exhibit A and any other required items to bring the Project to completion.

2. City agrees to pay Contractor a total sum not to exceed $497,610 (four-hundred ninety-seven thousand, six-hundred ten dollars) with an option to add $34,327 (thirty-four thousand, three-hundred twenty-seven dollars) for Stormwater Pollution Prevention Plan (SWPPP) tasks, and an option to add $91,565 (ninety-one thousand, five hundred sixty-five dollars) to pave the access road and northern side of the bridge, and an option to add $4,830 (four thousand, eight hundred thirty dollars) one additional geotechnical boring and associated analysis. The City, at its sole discretion, may exercise the optional additive contract items. Contractor will be paid 90% of biweekly estimates of work based on contract prices in Exhibit D. Contractor will be paid 90% of such amount upon completion of the work. The retained ten percent (10%), excluding such sums as may be lawfully withheld by City, shall be paid to Contractor within sixty (60) days after completion of the work as required by the City of Napa Charter Section 102. It is understood and agreed that in accordance with California Public Contract Code §22300, the Contractor will be allowed to substitute securities for money withheld by City to insure performance under this Contract. In accordance with Public Contract Code §20104.50, City shall promptly review payment requests and if not suitable for payment, City shall no later than seven (7) days after receipt return the same with an explanation as to why the payment request is not possible. City shall make progress payments within thirty (30) days after receipt of an undisputed and properly executed request. Failure to comply with the time requirements shall subject City to interest equivalent to the legal rate set forth in subdivision (a) of Section 685.010 of the Code of Civil Procedure.

3. The following shall govern the responsibilities and indemnification by Contractor:

A. City and each of its officers, employees, consultants and agents including, but not limited to, the Public Works Director and each City's representative, shall not be liable or accountable in any manner for loss or damage that may happen to any part of the Work; loss or damage to materials or other things used or employed in performing the Work; injury, sickness, disease, emotional injury, or death of any person; or damage to property resulting from any cause whatsoever except their sole negligence, willful misconduct or active negligence, attributable to performance or character of the Work, and Contractor releases all of the foregoing persons and entities from any and all such claims.

B. To the furthest extent permitted by law (including without limitation California Civil Code Section 2782), Contractor shall assume defense of, release, and indemnify and hold harmless, City and each of its officers, employees, consultants and agents including, but not limited to, the Public Works Director and each City's representative (excluding agents who are design professionals), from claims, suits, actions, losses and liability of every kind, nature and description, including but not limited to claims, etc., and fines of regulatory agencies or relating to claims, etc., for copyright and/or infringement patent,

and attorney's fees and consultant's fees, directly or indirectly, from any cause whatsoever, directly or indirectly, arising out of, connected with, or resulting from performance of the Work, failure to perform the Work, or condition of the Work which is caused in whole or in part by any act or omission of Contractor, Subcontractors, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether it is caused in part by the negligence of City or by any person or entity required to be indemnified hereunder.

C. With respect to third-party claims against Contractor, Contractor waives any and all rights to any type of express or implied indemnity against City and each of its officers, employees, consultants, and agents including, but not limited to City, the Public Works Director and each City's representative.

D. Approval or purchase of any insurance contracts or policies shall in no way relieve from liability nor limit the liability of Contractor, its Subcontractors of any tier, or the officers or agents of any of them.

E. To the furthest extent permitted by law (including, without limitation, Civil Code Section 2782), the indemnities, releases of liability and limitations of liability, claims, procedures, and limitations of remedy expressed throughout Contract Documents shall apply even in the event of breach of contract, negligence (active or passive), fault or strict liability of the party(ies) indemnified, released, or limited in liability, and shall survive the termination, rescission, breach, abandonment, or completion of the Work or the terms of the Contract Documents.

F. The Contractor's obligation to defend and indemnify shall not be excused because of the Contractor's inability to evaluate liability or because the Contractor evaluates liability and determines that the Contractor is not liable to the claimant. The Contractor will respond within 30 days to the tender of any claim for defense and indemnity by the City, unless this time has been extended by the City If the Contractor fails to accept or reject a tender of defense and indemnity within 30 days, in addition to any other remedy authorized by law, so much of the money due the Contractor under and by virtue of the contract as shall reasonably be considered necessary by the City, may be retained by the City until disposition has been made of the claim or suit for damages or until the Contractor accepts or rejects the tender of defense, whichever occurs first.

G. The indemnities in the Contract Documents shall not apply to any indemnified party to the extent of its sole negligence or willful misconduct; nor shall they apply to City or other indemnified party to the extent of its active negligence.

4. This Contract shall not be assigned without the written approval of the City.

5. The Contractor, at City's request, shall be required to deliver City any and all design materials. These materials include, but are not limited to: calculations, preliminary drawings, surveys, construction drawings, shop drawings, samples, electronic media data, sketches, illustrations, specifications, descriptions, models, mock-ups, and other information developed, prepared, furnished, or delivered in the prosecution of the design work for the Project.

6. Design Phase Responsibilities. The Design Phase includes the preparation of the Design Materials for the project including, but not limited to, all necessary engineering, including civil, geotechnical, and structural; and other required analyses, survey, project site evaluations and physical investigations, preparation of design documents, and necessary design modifications. The work shall also include all relevant plan reviews.

7. Ownership of Design Materials.

   a. All materials and documents developed in the performance of this Agreement shall be the property of City. City shall have unlimited rights, for the benefit of City, in all drawings, designs, specifications, notes and other work developed in the

performance of this Agreement, including the right to use same on any other City project at no additional cost to City. Contractor agrees to and does hereby grant to City a royalty-free license to all such data that Contractor may cover by copyright and to all designs as to which Contractor may assert any rights or establish any claim under the patent or copyright laws. The Contractor for a period of three (3) years after completion of the Project agrees to furnish and to provide access to the originals or copies of all such materials upon the request of City. City agrees to make no demand on Contractor for responsibility for the City's use of such materials for any other City project that is not the subject of a separate agreement between the City and Contractor for such use.

b. City does not assume any obligation to employ the Contractor's services or pay Contractor royalties of any type as to future programs that may result from the work performed under this Agreement.

8. Design Errors. The Contractor shall be responsible for all design errors, including, but not limited to: errors, inconsistencies or omissions in the Design Materials, or errors, omissions and inconsistencies that do not conform to the minimum standards of the Contract Documents. The Contractor shall take field measurements and verify field conditions and shall carefully compare such field conditions and other information known to the Contractor from the Contract Documents.

9. The Contractor shall have full care, custody and control of the project to completion and shall maintain the same in a safe and tidy condition. The Contractor shall at all times maintain proper facilities and provide safe access for inspection by City to all parts of the work, and to the shops wherein the work is in preparation. Where the specifications require work to be specially tested or approved, it shall not be tested or covered up without timely notice to the City, or its representative, of its readiness for inspection, and without the approval thereof or consent thereto by the latter. Should any work be covered up without such notice, approval or consent, it must, if required by the City, or its representative, be uncovered for examination at the Contractor's expense.

10. The Contractor shall assume sole and complete responsibility for job site conditions for the duration of the project including, but not limited to, the safety and health conditions on the work site. This requirement shall apply continuously and shall not be limited to normal working hours. Contractor shall comply with all applicable provisions of law including the standards, rules, regulations and orders established by the California Division of Industrial Safety. Contractor shall furnish and use safety devices and safeguards and shall adopt and use practices, means, methods, operations, and processes which are reasonably adequate to render the work site safe and healthful. Contractor shall take all steps necessary to ensure that any hazardous condition is corrected promptly either by the Contractor or by assigning such responsibility to the appropriate subcontractor and ensuring that the corrections are completed. The City, City's design engineer, City's construction manager and the City's officers, agents or employees, shall not have control over or charge of or responsibility for construction or safety means, methods, techniques, procedures, as these are solely the responsibility of Contractor.

11. Should the City at any time during the progress of the work request any alterations, deviations, additions or omissions from said Contract, specifications or plans, it shall be at liberty to do so, and the same shall in no way affect or make void the Contract but will be added to or deducted from the amount of said contract price, as the case may be, by fair and reasonable valuation. However, additional work necessitated to meet the project objectives stated in the Scope of Work (Exhibit A) shall be at no additional cost to the City. The value of any extra work to expand or work deleted to decrease the project objectives documented in the Scope of Work (Exhibit A) shall be determined in one or more of the following ways:

A. By estimate and acceptance of a lump sum.
B. By unit price named in the contract or subsequently agreed upon.
C. By cost and percentage or by cost and a fixed fee.

12. Contractor shall obtain insurance acceptable to the City in a company or companies acceptable to the City. The required documentation of such insurance shall be furnished to the City at the time Contractor returns the executed contract. The Contractor shall not commence work nor shall allow its employees or agents or anyone to commence work until all insurance and properly executed endorsements required hereunder have been submitted and approved. The Contractor shall take out and maintain at all times during the life of this Contract, the following policies of insurance with insurers (if other than the State Compensation Fund) with a current A.M. Best's rating of no less than A:VII, or its equivalent, against injury/death to persons or damage to property which may arise from or in connection with the performance hereunder by Contractor, its employees, agents and subcontractors:

A. Workers' Compensation Insurance with statutory limits as required by the Labor Code. The policy shall be endorsed to provide thirty (30) days prior written notice to City's Public Works Director prior to cancellation and shall provide for a waiver of subrogation against City, its officers, employees and agents.

B. Commercial General Liability Insurance at least as broad as Insurance Services Office Commercial General Liability coverage (occurrence form CG 0001) in an amount no less than $3,000,000 per project, or $3,000,000 per occurrence/$5,000,000 aggregate. If work involves explosives, underground or collapse risks, XCU must be included. The amount of any deductible or self-insured retention over $100,000 shall be declared to and security posted guaranteeing payment of losses and defense costs. Said policy shall contain, or be endorsed with, the following provisions:

(1) The City, its officers, employees and agents, are covered as insureds for liability arising out of the operations performed by or on behalf of Contractor, including materials, parts or equipment furnished in connection with such work or operations, with coverage to include products and completed operations of Contractor and premises owned, occupied or used by Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the City, its officers, agents and employees.

(2) For claims related to this project, the Contractor's insurance is primary coverage to the City, and any insurance or self-insurance programs maintained by the City is excess to Contractor's insurance and will not be called upon to contribute with it.

(3) The policy shall not be canceled or materially reduced in coverage without 30 days prior written notice (10 days for non-payment of premium) to City by certified mail.

(4) Any failure to comply with reporting or other provisions of the parties, including breach of warranties, shall not affect coverage provided to City, its officers, employees and agents.

C. Automobile Liability, with coverage at least as broad as Insurance Services Office form number CA 00 01 06 92, Code 1 (any auto), in an amount of $3,000,000 per accident. The amount of any deductible or self-insured retention over $100,000 shall be declared to and approved by the City. Said policy shall contain, or be endorsed with the provision that coverage shall not be canceled or reduced in coverage without 30 days prior written notice to City (10 days for non-payment of premium).

D. If applicable, Builders Risk (or course of construction), written on an all-risk form, for 100% completed value on the insurable part of the project. The Builders Risk policy shall provide for losses to be payable to City and Contractor as their interests may appear, and that in the event of payment for any loss under the coverage provided, the insurer shall not have rights of recovery against City and Contractor.

E. Prior to City's execution of Contract, Contractor shall provide properly executed Certificates of Insurance and Endorsements evidencing the insurance required herein, including the amount of any policy deductible or self-insured retention, on forms approved by City.

F. Contractor shall include all subcontractors as insureds under its policies or require subcontractors to secure and maintain insurance in accordance with all the requirements stated herein.

13. This writing is intended both as the final expression of the agreement between the parties hereto with respect to the included terms and as a complete and exclusive statement of the terms of the Contract, pursuant to Code of Civil Procedure §1856. No modification of this Contract shall be effective unless and until such modification is evidenced by a writing signed by both parties.

14. The Contract shall be construed and interpreted according to California law; any action to enforce the terms of this Contract or for the breach thereof shall be brought and tried in the County of Napa.

15. The execution of this Contract shall constitute Contractor's authority to proceed immediately with the performance of the Contract. Performance of bridge construction shall be completed by October 15, 2015; provided, however, that if the performance is delayed by earthquake, flood, high water or other Act of God or by strike, lock-out or similar labor disturbances, the time for Contractor's performance shall be extended by a number of days equal to the number of days the completion has been. Further, the completion date may also be extended for any agreed upon change orders that necessitate an extension; the date for which will be outlined in the change order.

16. Contractor warrants to City that all materials and equipment furnished under this Contract will be new unless otherwise specified and that all work will be of good quality free from faults and defects and in conformance with the contract documents. Neither final payment nor use or occupancy of the work performed by the Contractor shall constitute an acceptance of work not done in accordance with the Contract or relieve Contractor of liability in respect to any express warranties or responsibilities for faulty material or workmanship. Contractor shall remedy any defects in the work and pay for any damage resulting therefrom which shall appear within the period of one (1) year from the date of final payment by the City for the work. The Contractor shall repair or replace any and all work, together with any adjacent work that may have been damaged or displaced, which was not in accordance with the requirements of the Contract Documents, or that may be defective in its workmanship or material within the guarantee period specified in the Contract Documents, without any expense whatsoever to City; ordinary wear and tear and abuse excepted. City will give notice of observed defects with reasonable promptness.

17. By execution of this Contract, Contractor warrants that it has carefully examined the site of the work contemplated and any plans and specifications and contract documents pertaining to the work and has satisfied itself of all local conditions affecting the work and delivery of materials; City specifically disclaims any warranties for information provided to Contractor. It is the obligation of Contractor to notify City of any and all ambiguities, conflicts, etc., in and among such plans, specifications and/or documents.

18. Contractor shall give its personal attention to the fulfillment of the Contract and shall keep the work under its control at all times. No subcontractor will be recognized as such, and all persons engaged in the work will be considered as employees of Contractor, and it will be held responsible for the work which shall be subject to the provisions of the Contract and specifications, if any. It is understood and agreed that Contractor may sublet a portion of this work to the subcontractors only who are hereinafter named, and that Contractor will perform all other work unless specifically authorized by the City as provided for in Public Contract Code §§4100, et seq., inclusive, with which provisions the parties hereto agree to comply. The said subcontractors and the work they will perform are set forth in the Contractor's proposal as follows:

Name of Subcontractor	**Address of Office, Mill or Shop**	**Description of Work**
RSA +	1515 Fourth Street Napa, CA 94558	Civil Engineering
Miller Pacific Engineering Group	135 Camino Dorado Suite 3	Geotechnical

Name of Subcontractor	Address of Office, Mill or Shop	Description of Work
	Napa, CA 94558	
The Vertex Companies	400 Libbey Parkway Weymouth, MA 02189	Structural
R&R Maher Construction Company, Inc.	1324 Lemon St. Vallejo, CA 94590	Construction

19. Whenever, in the opinion of the City, the Contractor is neglecting the work or is not prosecuting the same with diligence or is not fulfilling the provisions of the Contract and specifications, the work, wholly or in part, may be suspended by written order of the City. If the Contractor, within five (5) days after the date of receipt of such a written order, does not agree to provide the required remedies for such deficiencies, the City may declare this Contract terminated and itself proceed to complete the work herein specified or engage others to do the same. The cost of such work and necessary materials shall be charged against the Contractor and be deducted from next or subsequent estimate payment for same. If payments to Contractor are not sufficient to cover the charges, the balance may be recovered from the Contractor or its Sureties. If City declares the Contract terminated pursuant to this paragraph and the amount of any such charges is less than the amount which would have been due to Contractor upon completion of the work by it, the difference shall be paid it by City; should the amount of said charges exceed the latter, the difference shall be paid by Contractor to City.

20. In the event City declares this Contract terminated pursuant to the previous paragraph, Contractor shall discontinue work, and City reserves the further right to take possession of and use any materials or equipment of any nature whatsoever belonging to or used by the Contractor on the work. All expenses charged under this paragraph shall be deducted and paid by City out of any monies due Contractor under the Contract, and in such accounting City shall not be held to obtain the lowest figure for completing the Contract, but all sums actually paid therefore shall be charged to the Contractor.

21. Contractor shall procure all licenses, including, but not limited to, a City of Napa business license, and give all notices necessary and incident to the lawful prosecution of the work and comply with all conditions of any permit, license or authorization allowed. Contractor shall ensure that each subcontractor has all required permits and licenses (including, but not limited to, a City of Napa business license), given all required notices and complies with all conditions of any permit, license or authority.

22. Pursuant to Public Contract Code Section 7103.5, Contractor assigns to City all rights, title and interest in and to all causes of action it may have under Section 4 of the Clayton Act or under the Cartwright Act arising from purchases of goods, services or materials for this contract. This assignment shall be made and effective at final payment without further acknowledgment by the parties.

23. Contractor shall not be entitled to the payment of any additional compensation for any act, or failure to act, by the City, including failure or refusal to issue a change order, or for the happening of any event, thing, occurrence, or other cause, unless he/she shall have given the City due written notice of potential claim. The written notice of potential claim shall set forth the reasons for which the Contractor believes additional compensation will or may be due, the nature of the costs involved, and insofar as possible, the amount of the potential claim. The said notice as above required must have been given to the City prior to the time that the Contractor shall have performed the work giving rise to the potential claim for additional compensation if based on an act, or failure to act, by the City, or in all other cases within fifteen (15) days after the happening of the event, thing, occurrence, or other cause giving rise to the potential claim.

24. In the event the work requires Contractor to dig trenches or other excavations deeper than four (4) feet below the surface, Contractor shall promptly, and before the following conditions are disturbed, notify the public entity, in writing, of any:

A. Material that the Contractor believes may be material that is hazardous waste, as defined in §25117 of the Health & 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.

B. Unknown physical conditions at the site of unusual nature including material appearing to include archaeological artifacts or different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract.

C. City shall promptly investigate the conditions, and if it finds that the conditions do involve hazardous waste or archaeological artifacts, shall direct Contractor to prepare and submit plan to lawfully manage the work area and proceed with contract work.

25. Contractor shall comply with all applicable provisions of federal, state and local law including, but not limited to, the following requirements of the California Labor Code:

A. City has obtained from the Director of the State Department of Industrial Relations the general prevailing rate of wages and employer payments for health and welfare, vacation, pension and similar purposes in the county in which said work is to be performed for each craft and type of workman or mechanic needed to execute the contract. These prevailing rates are on file in the City's office and will be made available to any interested party upon request. The Contractor shall post a copy of said prevailing rates at the job site. Pursuant to Sections 1770, et seq., the Contractor and all subcontractors under him shall pay not less than the prevailing wage rate. The Contractor shall forfeit to the City, as a penalty, Fifty Dollars ($50.00) for each laborer, workman, or mechanic employed for each calendar day or portion thereof, such laborer, workman or mechanic employed for each calendar day or portion thereof, such laborer, workman, or mechanic who is paid less than the prevailing wage rate for any work done under this Contract by him, or by any subcontractor under him.

B. Pursuant to Sections 1810, et seq., eight (8) hours of labor shall constitute a legal day's work upon all work done hereunder, and it is expressly stipulated that no workman employed at any time by the Contractor, or by any subcontractor or subcontractors under this Contract, upon the work or upon any part of the work contemplated by this Contract, shall be required or permitted to work thereon more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week, except as provided in Section 1815; all the provisions whereof are deemed to be incorporated herein, and it is further expressly stipulated that for each and every violation of said last named stipulation, said Contractor shall forfeit, as a penalty to the City, Twenty-five Dollars ($25.00) for each workman employed in the execution of this Contract, or by any subcontractor under this Contract, for each calendar day during which said workman is required to labor more than either (8) hours in violation of the provisions of said sections of the Labor Code.

C. Contractor shall comply with Section 1776 relating to certified copies of payroll records including the maintenance of these records and their certification and availability for inspection.

D. Contractor agrees to comply with Sections 1777.5, 1777.6 and 1777.7 regarding employment of apprentices. The responsibility for compliance with these provisions is fixed with the prime contractor for all occupations.

E. In the event the work involves the excavation of any trench(es) five (5) feet or more in depth, Contractor shall submit a detailed plan showing the design of shoring, bracing, sloping or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench(es) in accordance with Section 6705.

26. Attached hereto and made a part hereof is a Performance Bond in the amount of 100% of the estimated contract price and a Labor and Materials Bond in the amount of 100% of the estimated contract price, which shall be duly executed by Contractor as Principal and an admitted surety company as Surety prior to City's execution of this Contract. In conjunction with submittal of the bonds, the Contractor

shall furnish the original, or a certified copy, of the unrevoked appurtenant Power of Attorney or other instrument authorizing the person who executed the bonds to do so and a certificate from the Clerk of Napa County that the certificate of authority of the surety has not been surrendered, revoked, canceled, annulled or suspended.

27. Contractor agrees to observe the provisions of Section 2.92.040 of the Napa Municipal Code obligating every contractor or subcontractor under a contract or subcontract to the City of Napa for public works, subject to Section 101, Napa City Charter, in the sum of twenty-five thousand dollars ($25,000.00) or more, to refrain from discriminatory employment practices on the basis of sex, race, color, religious creed, national origin or ancestry of any employee of, or applicant for employment with, such contractor or subcontractor. Said Section 2.92.040 is by reference made a part of this contract.

28. If Contractor files a claim, it 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 section is intended to extend the time limit or supersede notice requirements otherwise provided by the contract for the filing of claims. For claims covered by Public Contract Code §26104, the following also applies:

A. Claims of Less Than $50,000.00.

(1) For claims of less than fifty thousand dollars ($50,000.00), City shall respond in writing to any written claim within forty-five (45) days of receipt of the claim, or may request, in writing, within thirty (30) days of receipt of the claim, any additional documentation supporting the claim or relating to defenses or claims the local agency may have against the claimant.

(2) If additional information is thereafter required, it shall be requested and provided pursuant to this section upon mutual agreement of City and the claimant.

(3) City's written response to the claim, as further documented, shall be submitted to the claimant within fifteen (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.

B. Claims Over $50,000.00.

(1) For claims of over fifty thousand dollars ($50,000.00) and less than or equal to three hundred seventy-five thousand dollars ($375,000.00), City shall respond in writing to all written claims within sixty (60) days of receipt of the claim, or may request, in writing, within thirty (30) days of receipt of the claim, any additional documentation supporting the claim or relating to defenses or claims City may have against the claimant.

(2) If additional information is thereafter required, it shall be requested and provided pursuant to this section upon mutual agreement of City and the claimant.

(3) City's written response to the claim, as further documented, shall be submitted to the claimant within thirty (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.

C. If the claimant disputes City's written response, or City fails to respond within the time prescribed, the claimant may so notify City, in writing, either within fifteen (15) days or receipt of City's response or within fifteen (15) days of City'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, City shall schedule a meet and confer conference within thirty (30) days for settlement of the dispute.

D. If following the meet and confer conference the claim or any portion remains in dispute, the claimant may file a claim pursuant to 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 this section until the time the claim is denied, including any period of time utilized by the meet and confer conference.

29. In the event any party to this Contract brings an action to enforce or interpret the provisions of this Contract, the prevailing party in such action shall be entitled to recover reasonable attorney's fees from the other party, whether or not such action or proceeding is prosecuted to judgment. This provision shall be in addition to any provisions regarding attorney's fees set forth in the bonds securing this Contract.

30. This Contract may be subject to examination and audit by City or the State of California pursuant to Government Code Section 8546.7. Contractor shall retain records of contract performance costs, expenses, etc., and make the records available for inspection, audit and copying during the contract period and three (3) years after final payment. Such time for retention shall be extended if grant funds are used to fund this project require the same.

31. The City of Napa Standard Plans dated July 2008 and Standard Specifications and the Standard Plans dated 2010 (CalTrans), shall govern the work to be performed hereunder insofar as they may apply; however, in case of conflict with the terms of this Contract, the terms of this Contract shall take precedence over the conflicting provisions. In the case of conflict between the City of Napa Standard Plans dated July 2008 and Standard Specifications and the Standard Plans dated 2010 (CalTrans), the terms of the City of Napa Standards take precedence over the conflicting provisions. Moreover, unless otherwise provided by City, the definitions used therein shall be interpreted to have the same meaning and intent as set forth in the City of Napa Public Works Standard Contract re Standard Specifications.

IN WITNESS WHEREOF, the parties hereto have caused this Contract to be executed the day and year first above written.

CITY OF NAPA:

_____
(Signature)

Jacques R. LaRochelle, Public Works Director
(Type name and title)

ATTEST:

_____
(Signature)

Dorothy Roberts, City Clerk
(Type name and title)

COUNTERSIGNED:

_____
(Signature)

Desiree Brun, City Auditor
(Type name and title)

APPROVED AS TO FORM:

_____
(Signature)

Michael W. Barrett, City Attorney
(Type name and title)

Budget Code: BR14PW03

CONTRACTOR:

G.D. Nielson Construction, Inc.

By: _____
(Signature)

_____
(Type name and title)

By: _____
(Signature)

_____
(Type name and title)

Address: 147 Camino Oruga
Napa, CA 94558

Telephone: 707-253-8774

*****Corporation, partnership, limited liability corporation, sole proprietorship, etc.

Unless corporate resolution delegates an individual to sign contracts, an agreement with a corporation shall be signed by the President or Vice President **and** the Secretary or Treasurer of the corporation. A general partner shall sign on behalf of a general partnership. The managing member, if authorized, may sign on behalf of a limited liability corporation.

FAITHFUL PERFORMANCE BOND
(Construction)

KNOW ALL PERSONS BY THESE PRESENTS, that the City of Napa (hereinafter designated as "City"), a municipal corporation located in the County of Napa, State of California, has awarded a contract to and has entered into an agreement with G.D. Nielson Construction, Inc., hereinafter designated as "Principal," whereby Principal agrees to complete the improvements more particularly described in all documents forming the complete contract entitled "**Tulocay Creek Bicycle/Pedestrian Bridge**," which said agreement is hereby referred to and made a part hereof; and

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

NOW, THEREFORE, we, the Principal and _____, as surety, are held and firmly bound unto the City in the penal sum of _____ dollars ($_____) lawful money of the United States, being not less than one hundred percent (100%) of the estimated contract cost of the work for the payment of which sum well and truly to be made, we bind ourselves, our heirs, successors, executors and administrators, jointly and severally, firmly by these presents.

The condition of this obligation is such that if the above-bounded Principal, his/her/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, therein provided, on his/her/its 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, defend and save harmless City, 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 and effect.

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

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

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their seals this ____ day of _____, 2015, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

NOTE: To be signed by Principal, and Admitted Surety and acknowledgement and notarial seal for both attached. Attach copy of authority for surety agent and County Clerk certificate under CCP §995.660*)*
[SEAL]

_____

_____

_____
(Principal)

_____

_____
(Surety)

LABOR AND MATERIALS BOND
(Construction)

KNOW ALL PERSONS BY THESE PRESENTS, that the City of Napa (hereinafter designated as "City"), a municipal corporation located in the County of Napa, State of California has awarded a contract to and has entered into an agreement with G.D. Nielson Construction, hereinafter designated as "Principal," whereby Principal agrees to complete the improvements more particularly described in all documents forming the complete contract entitled "**Tulocay Creek Bicycle/Pedestrian Bridge**" which said agreement is hereby referred to and made a part hereof; and

WHEREAS, said Principal is required to furnish a bond in connection and with said contract; provided that if said Principal, or any of his/her/its contractors, shall fail to pay for any materials, provisions, provider or other supplies or teams used in, upon, for, or about the performance of the work contracted to be done, or for any work or labor done thereon of any kind, the Surety of this bond will pay the same to the extent hereinafter set forth.

WHEREAS, we, the Principal and _____, as surety, are held and firmly bound unto the City in the penal sum of _____ dollars ($_____) lawful money of the United States, we bind ourselves, our heirs, successors, executors and administrators, jointly and severally, firmly by these presents.

The condition of this obligation is such that if said Principal, his/her/its heirs, executors, administrators, successors or assigns, or its subcontractors, shall fail to pay any of the persons named in Section 3181 of the Civil Code, or to pay for any materials, provisions, provider, or other supplies or teams used in, upon, for, or about the performance of the work contract to be done, or for any work or labor thereon of any kind or for amounts due under the Unemployment Insurance Code with respect to such work or labor, then said Surety will pay the same in or to an amount not exceeding the amount hereinabove set forth, and also will pay in case suit is brought upon this bond a reasonable attorney's fee in such suit, which fee shall be fixed by the Court.

AS FURTHER TERMS OF THIS BOND, IT IS UNDERSTOOD AS FOLLOWS:

1. This bond and all its provisions shall insure to the benefit of any and all persons named in Section 3181 of the Civil Code so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

2. This bond is given to comply with the provisions of Chapter 7, Part 4, Division 3, of the Civil Code. The liability of the Principal and Surety hereunder is governed by the provisions of said chapter, all acts amendatory thereof, and all other statutes referred to therein. 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 way effect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way effect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their seals this ___ day of _____, 2015, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

NOTE: To be signed by Principal, and Admitted Surety and acknowledgement and notarial seal for both attached. Attach copy of authority for surety agent and County Clerk certificate under CCP §995.660*)*
[SEAL]

_____

_____

_____
(Principal)

_____

_____
(Surety)

EXHIBIT A: Scope of Work and Schedule

Contractor is to furnish all necessary services, labor, equipment and materials for the design and construction to complete all project components for the Tulocay Creek/Pedestrian Bridge Project as described within these Contract Documents. The detailed scope of work is attached as Exhibit A-1. Additional information regarding the scope of work for the pier foundation is attached as Exhibit A-2. The project schedule is attached as Exhibit A-3.

The Contractor team for this project includes the necessary licensed engineering professionals to design the improvements, the quality control professionals to complete necessary testing and inspections, and licensed contractor to complete the construction to deliver a fully functional bridge that complies with all applicable local, state and federal laws and standards.

The Contractor's licensed design engineer is responsible for the engineering, calculations, plan development, technical specifications development, recommendations for additions or modifications to the Special Provisions (Exhibit B), review and certification of submittals and shop drawings, construction quality control and inspections. The contractor's licensed design engineer is the responsible engineer of record for this project and shall be responsible to certify that completed construction complies with all contract documents.

Contractor is responsible to ensure the project improvements are designed and constructed to the Standard Specifications of the State of California Department of Transportation, dated 2010, Standard Plans of the State of California Department of Transportation, dated 2010, the City of Napa Standard Plans dated July 2008, and the Special Provisions described in Exhibit B. If any discrepancies between the Special Provisions and the State and City standards exist, the Special Provisions shall prevail. Specific materials and tasks required for this project are not included within the included special provisions. The design engineer shall develop technical specifications that comply with government and industry standards. All work performed under this agreement shall comply with current local, state and federal laws and design and construction standards.

Contract work includes compliance with environmental permits (Exhibit F) and compliance with TDA-3 and Recreation Trails Program grant funding requirements, clearing and grubbing, demolition, bridge and approach construction, site clean-up and finishing to return project areas improved and ready for public use. All areas not part of the improvement plans but impacted by construction activities shall be restored and repaired. Additional work beyond the specifically described tasks may be required by the Contractor to complete the project objective to provide a new bridge over Tulocay Creek.

Geotechnical boring(s) and investigations shall be completed as the first phase of the project. Based on the information available with the RFP and site visits, the assumed pier foundation requirements were approximated by the geotechnical and structural engineers of the contractor team. The proposed scope of work and pier foundation information has been attached as Exhibit A-2 Contactor shall notify City prior to commencing structural design of foundations/abutments if upon testing it is determined that the actual subsurface conditions vary substantially from the assumed conditions and work in excess of this contract scope is necessary. If this occurs, Contractor and City shall meet to determine course of action and negotiate the scope and compensation for any additional work required.

Contractor is required to coordinate construction schedules and project phasing with City forces, and any other contractors hired by City or the Napa County Flood Control and Conservation District and utility companies. Contractor shall complete the bridge construction for use by the public no later than October 15, 2015.

DESIGN-BUILD SERVICES TULOCAY CREEK BICYCLE/PEDESTRIAN BRIDGE SCOPE OF SERVICES

BASE PROPOSAL

1. **Mobilization**. In an effort to minimize impacts on the public and businesses around the work area, the bulk of mobilization will be executed in one move in. After investigating the ingress and egress access points, it was determined that all heavy equipment should be limited to working from the north side of the Napa river tributary. The south side access point would require heavy equipment to travel over the Napa Valley Vine Trail, which is a paved path. The structural section of this trail is only 2 inches of asphalt over 4 inches of class II aggregate base, which would fail under the stress imposed by mobilizing heavy equipment over it. Our design-build team reached out to the Napa Valley Wine Train and made arrangements to allow for access through their property in order to easily transverse across the tributary.

2. **Install BMP's, Clear and Grub Site**. Due to the close proximity to the Napa river and its tributary the environmental protection plan will be at the strictly adhered to and an onsite designated member of the design-build team will be constantly monitoring the BMP's in order to ensure compliance during the duration of the project. The site will be cleared of obstructions and hazards, construction signs will be posted and the site will be secured in order to maintain a safe working environment for our workers, agents and suppliers. This will serve most importantly for public awareness and safety.

3. **Earthwork/Excavations**. The project itself, due to mobilization constraints will be build north to south. The excavation phase of work is required in order to prep the site for the installation of the deep foundation and bridge abutments.

4. **Deep Foundation Installation**. A helical pier system will be used for the foundation system of the Tulocay Bridge.

   a. *Bridge abutment*. The bridge abutment and wingwall configuration will allow for minimal environmental impacts while maintaining the structural integrity and aesthetic appeal we were looking for in the design.

   b. *Deep foundation*. After the "pre-design" gathering of information stage, it was determined that a traditional pier foundation would not be a good option given what was known about the subgrade material. A high water table with saturated soils would slough and be expensive to drill though. If a large void was created during the traditional drilling operations and filled with concrete it could cause micro cracking in the long term lifespan of the pier which could create structural problems. Also with traditional drilling there would need to be de-watering measures put in place. This is why we decided to incorporate helical piles into our design. Helical piles do not require de-watering operation but provide the same structural integrity of traditional piles. They also do not require a pre-drilled hole prior to installation or any concrete encasement.

5. **12 foot wide, 125 foot long, 20,000LB capacity bridge installation**. This process was started by looking at the options for the type of bridge to be installed. A 12' wide bridge would be accommodating to the types of ambulances that the city of Napa uses while a 10' wide bridge

would not. That factor was the reasoning being decided on the wider option. The same scenario was looked at for the capacity of the bridge, while a 5" decking would meet the RFP's min requirements of 10000lbs, the ambulance dry weight is 10,000lbs., which fully loaded with equipment and personnel would exceed the weight capacity of the bridge. A 6" section of decking would be capable of handling up to 20,000lbs, which would be required in order to safely accommodate an ambulance's weight. The bridge, manufactured by Excel Bridge Manufacturing Company, will be lifted in place using a larger crane from the northern side of the tributary to eliminate the risk of damaging the structural section of the Napa Valley Vine trail's pavement section.

6. **North and South approach installation.** After the bridge option was decided upon, the approaches were looked at. Each approach would need to be safe for ADA access and wide enough with sweeping radiuses to accommodate the area required for an ambulance to safely transverse the bridge. It was determined that there should be a railing installed along the northern approach ramp for the leading 30' to the bridge decking for public safety and ADA access. Material required to build these approaches will all be brought into the site through the northern ingress point

7. **Engineering Services.**

A. Civil

a. Project Management. RSA+ will serve as primary design engineer and coordinate the efforts of the design team.

b. Topographic Survey. RSA+ will prepare a topographic survey of the project area. The survey will show boundary lines and easements within the project area.

c. Design Development. RSA+ will prepare a conceptual plan showing the placement of the foundations and the resulting span. We will then work with Client and structural engineer to identify bridge type options in order to determine the best one for this location. A critical factor will be the section thickness and its relationship to the 100-year flood elevation. Other critical factors to also weigh will be cost, aesthetics and access to site for delivery.

d. Construction Plans. RSA+ will prepare Construction Plans based on the conceptual plans prepared above and approved by Client.

i. *Grading Plan*. RSA+ will prepare Civil Plans for the grading and drainage improvements appurtenant to the bridge construction. We will coordinate and integrate the work of the Structural Engineer. The plan will show connections to existing trails. Erosion control measures will also be shown and an ESCP prepared.

ii. *Environmental Plans*. RSA+ will prepare an Environmental Protection and Re-Vegetation Plan. The plan will include measures to ensure no construction materials or substances enter the creek area. The plan will show all areas to be disturbed during construction and BMPs confining the work area. The plan will also show areas to remind undisturbed and protected from construction, and designated access points to the work area. This task includes miscellaneous coordination with CDFW and City staff and will include hydroseeding of all disturbed areas.

e. Construction Staking. RSA+ will provide construction staking for the construction of foundations, approach ramps and trail connections.

f. **Construction Phase Services.** RSA+ will be available during construction to assist Nielson in building the project. This task will include a final certification letter that improvements constructed are in conformance with project plans and changes made in the field, if any.

B. Geotech

a. **Geotechnical Investigation**. Geotechnical services will include subsurface exploration with one soil boring at the south abutment to supplement the existing Corps. data at both bridge abutments. This boring will be advanced to a depth of about 50 feet and we will obtain samples for laboratory testing that will allow a more detailed evaluation of liquefaction and soil strengths for design of a deep foundation or possible justification of a shallow foundation. A geotechnical design report will be prepared with a summary of the findings and conclusions, including recommendations and criteria for alternative deep foundation systems (the project team will be consulted prior to issuance of the report to determine the "most" cost effective foundation system). It is anticipated that a helical anchor foundation system may ultimately be selected, but driven mini-piles and other systems can also be considered. A summary of relevant geologic hazards and mitigation measures, criteria for abutment wall lateral design, 2013 CBC coefficients and recommendations for backfill and paving of the bridge approaches will be provided.

b. **Supplemental Consultation**. Supplemental consultation will be provided, as requested, during the review and permitting process, including review of the plans to verify that the intent of the geotechnical recommendations has been implemented.

c. **Construction Observation & Testing**. During construction, portions of the work will be observed to verify that the soil conditions are as anticipated and to observe and test the geotechnical portions of the work such as foundation excavations, concrete strength and placement, abutment wall backfill and other geotechnical items. The results of the construction services will be summarized in a brief letter upon satisfactory completion.

C. Structural

a. **Schematic Design Services.** Preparation of Schematic Documents will include framing and foundation sketches of the proposed structural design, and preliminary material specifications for the proposed project, including the following:

i. Schematic design of the Gravity Force Supporting System.
ii. Schematic design of a Lateral Force Resisting System.
iii. Preliminary construction estimate, based on the proposed design.

b. **Structural Design and Drafting Services**. Vertex will prepare Construction Documents required by the City of Napa to obtain a building permit for the proposed Commercial Renovations, using the International Building Code as modified by the State of California (2012 CBC), and the City of Napa.

Preparation of Construction Documents will include Calculations, Structural Drawings, and "on sheet" Specifications for the proposed project, including the following:

i. Gravity structural analysis & design completing a structural design calculation package.

ii. Design of a Lateral Force Resisting System completing a structural design calculation package.
iii. Drafting to include the following:
   a. General Structural Notes & Structural Specifications
   b. Typical Structural Details
   c. Foundation Plan & Details
iv. Revisions as required to satisfy the City of Napa Building Department Plan Check.

Local ordinances and building standards will also be adhered to in the structural design process.

D. Construction Services.
Vertex will provide an engineer to inspect the bridge during the construction process for adherence to the approved design documents, local and state building code standards. Vertex will require structural observation of the foundation and framing at defined construction progress points. Construction Phase Services cannot be performed unless a Building Permit is issued.

Vertex will provide construction assistance for the proposed project, which includes the following:

a. Site visits (3 estimated).
b. Respond to contractor questions (RFI's) concerning structural elements.
c. Review Change Order requests and provide recommendations to the Client.
d. Review vendor documents (Shop Drawings) and provide comments and/or approval.
e. Provide letter to the Client following each site visit, for either compliance or non-compliance.

8. **Demobilization and Clean Up**. Demobilization will be handled much like the mobilization phase, with the bulk of equipment being removed in one move. The worksite will be cleaned and returned to its original condition. Any area that was disturbed during the construction phase will be hydroseeded.

ADD ALT OPTIONS

9. **Pave approach and access road on the northern side of the Bridge**. Paving this road is based on the roadway being pave ready once the approaches are completed. A 2 inch section of asphalt will be laid down for the approximate ¾ mile stretch to connect the trail to the intersection near Soscol Ave. It will include a topographic survey, grading and drainage plan as well as a paving plan submitted prior to installation.

10. **Encasement of helical piers for future widening**. The upper 10' section of the helical piers installed vertically will be encased in concrete with a total diameter of 18". This will allow for the future widening of the channel and reduce the risk of undermining of the structural abutments and ensure the longevity of the lifespan of the bridge.

11. **Install a 10 foot wide bridge with a 5 inch thick deck**. This deductive alternate design is presented as an option to the city to install a bridge that meets the required minimums of the RFP.

EXCLUSIONS

1. Water surface determination (West Associates determination will be used)
2. Regulatory Permitting inc/ CDFW (permit has been acquired)
3. SWPPP, QSD or QSP Services
4. Subgrade preparation for new proposed asphalt section
5. Additional aggregate base required to pave northern section of roadway leading to where approach starts for northern access to bridge

EXHIBIT A-2: Proposed Scope: Pier Foundation

Helical piers (see http://www.abchance.com/wp-content/uploads/2012/07/01-0505.pdf) are essentially a deep "corkscrew" that can support both tension and compression loads on the order of 50 kips. They are advantageous in a project like this because they are installed with relatively small equipment (small to medium sized excavator or backhoe) vs. a very large crane that would be required for 40 foot long +/- driven concrete piles. The total estimated length required (480 feet) is due to soft and/or potentially liquefiable soils at the project site, along with the moderately large foundation loads anticipated from the relatively long span. Mobilizing the large crane to the site is both expensive and would likely cause significant damage to the existing pavements, especially on the south approach to the structure. Disadvantages of the helical anchor are that since they are smaller diameter, they do not achieve the lateral capacity that a concrete pile can provide, so we expect a few "battered" helical anchors will be installed to accommodate lateral loads. With the cost to mobilize a large crane and potential damage to existing asphalt from the crane, the helical anchors are expected to be a more economical alternative. Helical piers are galvanized steel for corrosion protection and we would expect a 50+ year design life. In addition, the traditional pier system would most likely require dewatering as opposed to the helical piers and may generate a large quantity of spoils (depending on the depth required) that will need to be off-hauled and disposed of.

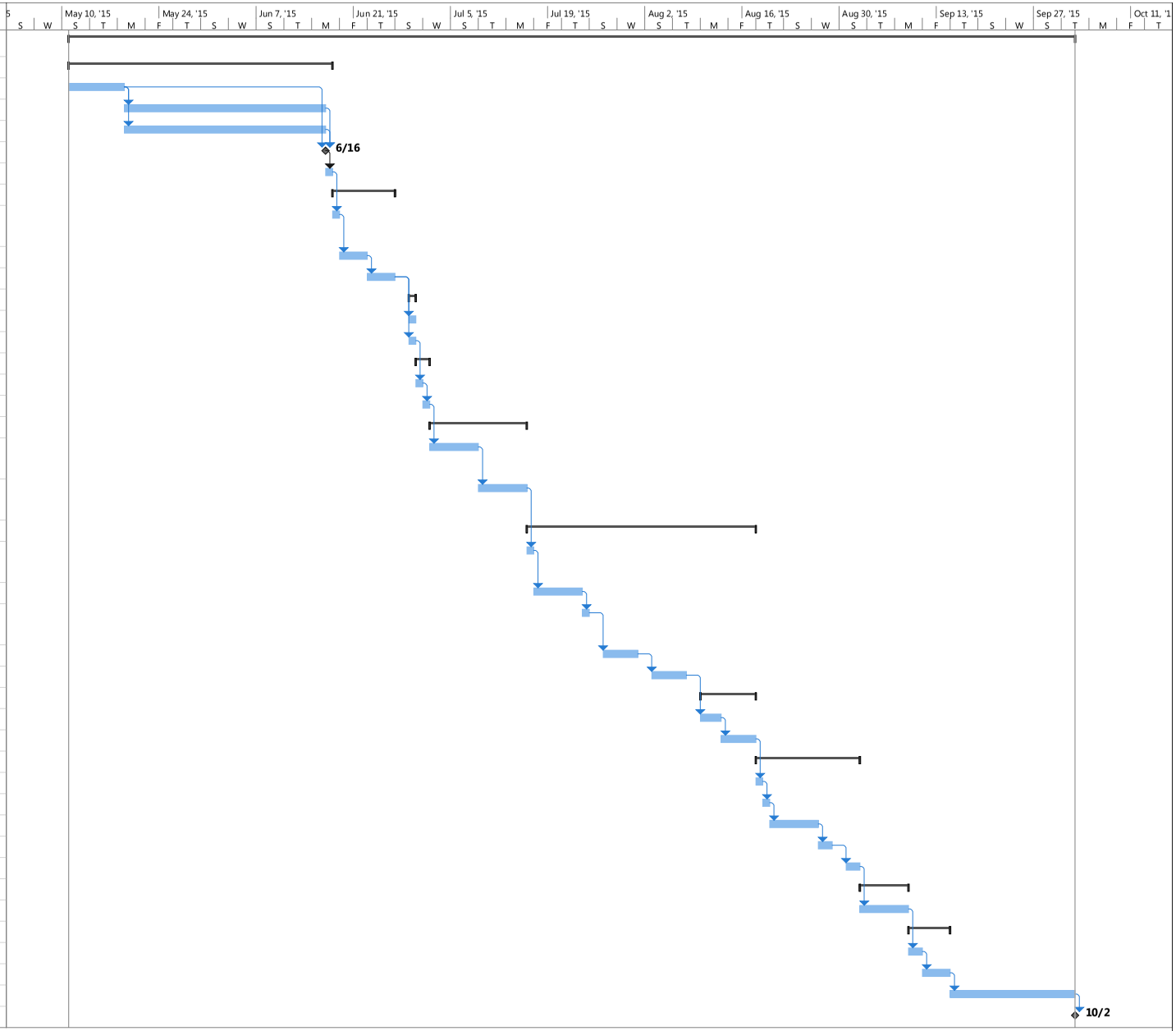
Since there is already some Corps data near each abutment (maximum depth of about 30 feet for their exploration), one additional (deeper) boring on the south side (where liquefaction issues seem to be greater), was proposed. An additional boring is proposed as an additive option item.

Another advantage (not listed above) of helical anchors is that they are advanced with 5-10 foot long "extensions" and installation torque is related to capacity. Therefore, the helical anchor length can be easily adjusted during construction to fit the site conditions, unlike a precast concrete pile which cannot be easily lengthened. While we expect conditions at greater depth will be similar for the two sides of the channel, the helical anchors will be installed to the appropriate torque so the data from a 2nd geotechnical boring is less important. However the additive alternate item for an additional boring could reduce the risk associated with unknown subsurface conditions including possible obstructions or soil conditions during the design phase. The Contractor's proposal for the base contract assumes that there are no underground obstructions that will require an adjustment of the helical pier system once the installation begins.

Whether a shallow foundation system will largely depend on the data gathered by the engineering team as we move forward but this may be an option for the bridge foundation. That being said, there is a greater potential risk of future liquefaction, settling etc. At this time, given the known information, it is assumed that a deep foundation will most likely be required for the bridge foundation.

The helical anchors rely on the adjacent soil for support, if the future widening of the channel did not leave enough support for the helical anchor system additional support will be require. Concrete encasement is one option to ensure the helical anchors have sufficient support once the channel is widened. There may be additional option that can be implemented in the future (i.e. rip rap placed along the bank near the bridge foundations). If the additive alternate item for the concrete encasement is exercised, it would increase rigidity (i.e. the section modulus) of the helical anchor which would increase their allowable lateral load along with resistance to buckling under axial loads if a significant portion of the helical anchor was unsupported by adjacent soil. For minimum distance between bank and piles, three feet minimum at top of bank is suggested.

ID	Task Mode	Task Name	Duration
1		**Tulocay Bridge**	**105 days**
2		**General Conditions**	**28 days**
3		Engineering investigations	6 days
4		Engineering design approval	21 days
5		submittals	21 days
6		Receive notice to proceed	0 days
7		Precon	1 day
8		**Mobilize Site**	**7 days**
9		Prepare Site - Traffic Control / Construction Signs	1 day
10		Mob Equipment and Personnel	2 days
11		Install SWPPP	4 days
12		**Clear And Grub**	**1 day**
13		Clear Site	1 day
14		Secure site	1 day
15		**Earthwork**	**2 days**
16		Excavate for north abutment	1 day
17		Excavate for south abutment	1 day
18		**Helical Anchors**	**10 days**
19		Install Helical anchors for north abutment	5 days
20		Install helical anchors for south abutment	5 days
21		**Concrete**	**23 days**
22		Prep area for north abutment and wingwall	1 day
23		Install North abutment and wingwall	5 days
24		Prep area for south abutment and wingwall	1 day
25		Install south abutment and wingwall	5 days
26		Cure time for abutments	5 days
27		**Approaches**	**6 days**
28		Install North approach	3 days
29		Install South Approach	3 days
30		**Bridge**	**11 days**
31		Recive Bridge and assymble	1 day
32		Install Bridge	1 day
33		Install Concrete Deck	5 days
34		Install Curb for railing	2 days
35		Install railing	2 days
36		**Pave North Trail**	**5 days**
37		Pave North Trail	5 days
38		**Clean up Demob**	**4 days**
39		Clean Site	2 days
40		Demob	2 days
41		**Project Closeout**	14 days
42		**Project Complete**	0 days



Project: Tulocay Bridge
Date: Tue 3/10/15

Task | Split | Milestone | Summary | Project Summary | Inactive Task | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | External Tasks | External Milestone | Deadline | Progress | Manual Progress

ATTACHMENT 1

EXHIBIT B: SPECIAL PROVISIONS

The Contractor for this project includes the necessary engineering professionals to design the improvements, the quality control professionals to complete necessary testing and inspections, and licensed contractor to complete the construction to deliver a fully functional bridge that complies with all applicable local, state and federal laws and standards. These special provisions include the expected performance for aspects of the project.

The Contractor's design engineer is responsible for the engineering, calculations, plan development, technical specifications development, recommendations for additions or modifications to these special provisions, review and certification of submittals and shop drawings, construction quality control and inspections. The contractor's licensed design engineer is the responsible engineer of record for this project and shall be responsible to certify that completed construction complies with all contract documents.

MEASUREMENT AND PAYMENT

MEASUREMENT AND PAYMENT – The contract price includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in the design, construction, and delivery of the Tulocay Creek Bicycle/Pedestrian Bridge project in compliance with these special provisions, Standard Specifications, permits, and TDA-3 and Recreation Trails Grant program and no additional compensation will be allowed therefor. Attention is directed to section 5-1.03 of these Special Provisions related to the exclusion of hazardous material if encountered within the course of the work.

SECTION 1 STANDARD PLANS AND SPECIFICATIONS

In the case of conflict between the City of Napa Standard Plans dated July 2008 and Standard Specifications and the Standard Plans dated 2010 (CalTrans), the terms of the City of Napa Standards take precedence over the conflicting provisions.

The work embraced herein shall be done in accordance with the Standard Specifications of the State of California Department of Transportation, dated 2010, Standard Plans of the State of California Department of Transportation, dated 2010, and the City of Napa Standard Plans dated July 2008. In case of conflict between the Standard Specifications and specific instructions any other information within this contract, the contract shall take precedence over and be used in lieu of such conflicting portions. The primary units and measurements of the work shall be in United States Standard Measures. Measurement and Payment will be in United States Standard Units.

Amendments to the Standard Specifications set forth in these special provisions shall be considered as part of the Standard Specifications for the purposes set forth in Section 5-1.04, "Coordination and Interpretation of Plans, Standard Specifications and Special Provisions," of the Standard Specifications. Whenever either the term "Standard Specifications is amended" or the term "Standard Specifications are amended" is used in the Special Provisions, the indented text or table following the term shall be considered an amendment to the Standard Specifications. In case of conflict between such amendments and the Standard Specifications, the amendments shall take precedence over and be used in lieu of the conflicting portions. City of Napa Standard Plans shall take precedence if in conflict with the Caltrans Standard Plans and Specification.

When in the Standard Specifications or in any documents or instruments where the Standard Specifications govern, the following terms or nouns are used, the intent and meaning shall be interpreted as follows:

A. City Standard Plans – The City of Napa Standard Specifications and Standard Plans dated July 2008.

B. Days – As used in these Special Provisions, days shall mean working days.

C. Department or Department of Transportation – Department of Public Works of the City of Napa, California.

D. Director – Director of Public Works of the City of Napa, State of California, acting either directly or through properly authorized agents, such agents acting within the scope of the particular duties entrusted to them.

E. Engineer – The Director of Public Works of the City of Napa, California, acting either directly or through properly authorized agents, such agents acting within the scope of the particular duties entrusted to them.

F. Laboratory – The established laboratory of the City of Napa's current testing consultant, authorized by the Engineer to test materials and work involved in the contract.

G. Liquidated Damages – The amount prescribed in the Special Provisions, pursuant to the authority of Government Code Section 53069.85, to be paid to the City of Napa to be deducted from any payments due or to become due the Contractor for each calendar day's delay in completing the whole or any specified portion of the Work beyond the time allowed in the Special Provisions.

H. State Contract Act – all applicable provisions of the Public Contract Code (excluding Division 2, Part 2; Division 2, Part 3, Article 4; and Uniform Construction Cost Accounting Act under (22010, *et seq*.) therein), Government Code, Labor Code, Civil Code, Business and Professions Code, as they apply to contracts with local public agencies, as defined in said codes.

I. Standard Plans – The 2010 edition of the Standard Plans of the State of California, Department of Transportation. Any reference therein to the State of California or a State agency, Office, or officer shall be interpreted to refer to the City or its corresponding agency, office, or officer acting under this contract.

J. Standard Specifications – The 2010 edition of the Standard Specifications of the State of California, Department of Transportation. Any reference therein to the State of California or a State agency, Office, or officer shall be interpreted to refer to the City or its corresponding agency, office, or officer acting under this contract.

K. State or Owner – The City of Napa, California, a legal entity organized and existing in the County of Napa, State of California.

L. Transportation Building-Sacramento – City Hall, City of Napa, State of California.

SECTION 2 PROPOSAL REQUIREMENTS AND CONDITIONS

2-1.01 AFFIRMATIVE ACTION REQUIREMENTS

DEFINITIONS

For purposes of this section:

1. "City Manager or designee of the City Manager and/or the designated representative" means the person/s appointed to that position by the City Council.

2. "Prime Contractor" means a person, firm, partnership or corporation who has been awarded a contract by the City of Napa which is subject to Section 101, Napa City Charter and which is in the sum of $25,000 or more.

3. "Principal Subcontractor" means a person, firm, partnership or corporation who has a contract with a prime contractor to supply labor and/or materials in the sum of $12,000 or more.

AFFIRMATIVE ACTION REQUIRED

Contractor agrees to observe the provisions of Section 2.92.040 of the Napa Municipal Code obligating every contractor or subcontractor under a contract or subcontract to the City of Napa for public works, subject to Section 101, Napa City Charter, in the sum of twenty-five thousand dollars ($25,000.00) or more, to refrain from discriminatory employment practices on the basis of sex, race, color, religious creed, national origin or ancestry of any employee of, or applicant for employment with, such contractor or subcontractor. Said Section 2.92.040 is by reference made a part of this contract.

If any Contractor or subcontractor under contract to the City of Napa for Public Works shall without good cause fail to appear at a public hearing of the Council after having been given written notice of such hearing, the Contractor forfeits further consideration of said appeal.

The contractor, sub recipient, or subcontractor must not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor must carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate. Each subcontract signed by you must include this assurance.

Failure by you to fulfill the requirements of the Special Provisions for submittals required to be furnished after bid opening, including but not limited to DBE submittals or escrowed bid documents, where applicable, may subject you to a determination of the bidder's responsibility in the event of being the apparent low bidder on future Public Works contracts.

2-1.06 FEDERAL LOBBYING RESTRICTIONS

Section 1352, Title 31, United States Code prohibits Federal funds from being expended by the recipient or any lower tier sub recipient of a Federal-aid contract to pay for any person for influencing or attempting to influence a Federal agency or Congress in connection with the awarding of any Federal-aid contract, the making of any Federal grant or loan, or the entering into of any cooperative agreement.

If any funds other than Federal funds have been paid for the same purposes in connection with this Federal-aid contract, the recipient must submit an executed certification and, if required, submit a completed disclosure form as part of the bid documents.

A certification for Federal-aid contracts regarding payment of funds to lobby Congress or a Federal agency is included in the Proposal. Standard Form - LLL, "Disclosure of Lobbying Activities," with instructions for completion of the Standard Form is also included in the Proposal. Signing the Proposal will constitute signature of the Certification.

The above referenced certification and disclosure of lobbying activities must be included in each subcontract and any lower-tier contracts exceeding $100,000. All disclosure forms, but not certifications, must be forwarded from tier to tier until received by the Engineer.

You, the subcontractors, and any lower-tier contractors must file a disclosure form at the end of each calendar quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any disclosure form previously filed by you, the subcontractors, and any lower-tier contractors. An event that materially affects the accuracy of the information reported includes:

(1) A cumulative increase if $25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action; or

(2) A change in the person(s) or individual(s) influencing or attempting to influence a covered Federal action; or

(3) A change in the officer(s), employees(s), or Member(s) contacted to influence or attempt to influence a covered Federal Action.

2-1.07 DISADVANTAGED BUSINESS ENTERPRISE (DBE)

Attention is directed to Section 2-1.12, "Disadvantaged Business Enterprises" of the Standard Specifications and these Special Provisions.

This project is subject to Title 49 CFR 26.13(b):

> The contractor, sub recipient or subcontractor must not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. You must carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by you to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

Take necessary and reasonable steps to ensure that DBEs have opportunity to participate in the contract (49 CFR 26).

To ensure equal participation of DBEs provided in 49 CFR 26.5, the Agency shows a goal for DBEs.

Make work available to DBEs and select work parts consistent with available DBE subcontractors and suppliers.

Meet the DBE goal shown in the Notice to Bidders or demonstrate that you made adequate good faith efforts to meet this goal.

It is your responsibility to verify that the DBE firm is certified as DBE at date of bid opening. For a list of DBEs certified by the California Unified Certification Program, go to:

http://www.dot.ca.gov/hq/bep/find_certified.htm

All DBE participation will count towards the Agency's Annual Anticipated DBE Participation Level and the federally mandated statewide overall DBE goal.

Credit for materials or supplies you purchase from DBEs counts towards the goal in the following manner:

1. 100 percent counts if the materials or supplies are obtained from a DBE manufacturer.
2. 60 percent counts if the materials or supplies are obtained from a DBE regular dealer.
3. Only fees, commissions, and charges for assistance in the procurement and delivery of materials or supplies count if obtained from a DBE that is neither a manufacturer or regular dealer. 49 CFR 26.55 defines "manufacturer" and "regular dealer."

You receive credit towards the goal if you employ a DBE trucking company that performs a commercially useful function as defined in 49 CFR 26.55(d)(1) through (4) and (6).

DBE Commitment Submittal

Submit DBE information on the "Local Agency Bidder DBE Commitment (Construction Contracts), Exhibit 15-G form, included in the Bid proposal. If the form is not submitted with the bid, remove the form from the Bid proposal before submitting your bid.

If the DBE Commitment form is not submitted with the bid, the apparent low bidder, the 2nd low bidder, and the 3rd low bidder must complete and submit the DBE Commitment form to the Agency. The DBE Commitment form must be received by the Agency no later than 4:00 p.m. on the 4th business day after bid opening.

Other bidders do not need to submit the DBE Commitment form unless the Agency requests it. If the Agency requests you to submit a DBE Commitment form, submit the completed form within four (4) business days of the request.

Submit written confirmation from each DBE stating that it is participating in the contract. Include confirmation with the DBE Commitment form. A copy of a DBE's quote will serve as written confirmation that the DBE is participating in the contract.

If you do not submit the DBE Commitment form within the specified time, the Agency finds your bid nonresponsive.

Good Faith Efforts Submittal

If you have not met the DBE goal, complete and submit the "DBE Information - Good Faith Efforts," Exhibit 15-H, form showing that you made adequate good faith efforts to meet the goal. Only good faith efforts directed towards obtaining participation by DBEs will be considered. Good faith efforts documentation must be received by the Agency no later than 4:00 p.m. on the 4th business day after bid opening.

If your DBE Commitment form shows that you have met the DBE goal or if you are required to submit the DBE Commitment form, you must also submit good faith efforts documentation within the specified time to protect your eligibility for award of the contract in the event the Agency finds that the DBE goal has not been met.

Good faith efforts documentation must include the following information and supporting documents, as necessary:

1. Items of work you have made available to DBE firms. Identify those items of work you might otherwise perform with its own forces and those items that have been broken down into economically feasible units to facilitate DBE participation. For each item listed, show the dollar value and percentage of the total contract. It is your responsibility to demonstrate that sufficient work to meet the goal was made available to DBE firms.
2. Names of certified UDBEs and dates on which they were solicited to bid on the project. Include the items of work offered. Describe the methods used for following up initial solicitations to determine with certainty if the DBEs were interested, and the dates of the follow-up. Attach supporting documents such as copies of letters, memos, facsimiles sent, telephone logs, telephone billing statements, and other evidence of solicitation. You are reminded to solicit certified DBEs through all reasonable and available means and provide sufficient time to allow DBEs to respond.
3. Name of selected firm and its status as a DBE for each item of work made available. Include name, address, and telephone number of each DBE that provided a quote and their price quote. If the firm selected for the item is not a DBE, provide the reasons for the selection.
4. Name and date of each publication in which you requested DBE participation for the project. Attach copies of the published advertisements.
5. Names of agencies and dates on which they were contacted to provide assistance in contacting, recruiting, and using DBE firms. If the agencies were contacted in writing, provide copies of supporting documents.
6. List of efforts made to provide interested DBEs with adequate information about the plans, specifications, and requirements of the contract to assist them in responding to a solicitation. If you have provided information, identify the name of the DBE assisted, the nature of the information provided, and date of contact. Provide copies of supporting documents, as appropriate.
7. List of efforts made to assist interested DBEs in obtaining bonding, lines of credit, insurance, necessary equipment, supplies, and materials, excluding supplies and

equipment that the DBE subcontractor purchases or leases from the prime contractor or its affiliate. If such assistance is provided by you, identify the name of the DBE assisted, nature of the assistance offered, and date. Provide copies of supporting documents, as appropriate.

8. Any additional data to support demonstration of good faith efforts.

The Agency may consider DBE commitments of the 2nd and 3rd bidders when determining whether the low bidder made good faith efforts to meet the DBE goal.

SECTION 3 AWARD AND EXECUTION OF CONTRACT

3-1.01 BONDS

The third paragraph of Section 3-1.05 "Contract Bonds" of the Standard Specifications is amended to read:

The contractor shall furnish a faithful performance bond in an amount equal to one hundred percent (100%) of the contract price, and a bond to guarantee payment of all claims for labor and material furnished, in an amount equal to one hundred percent (100%) of the contract price. Contract bonds shall be on the City of Napa forms, copies of which are included in these bid documents or on a substantially similar form as approved by the City Attorney.

In conjunction with the submittal of bonds, the successful bidder shall furnish the following information: (a) the original, or a certified copy, of the unrevoked appointment, power of attorney, bylaws, or other instrument entitling or authorizing the person who executed the bonds to do so; (b) a certified copy of the certificate of authority of the insurer issued by the Insurance Commissioner of the State of California; and (c) a certificate pursuant to CCP 995.640(a) from the clerk of Napa County that the certificate of authority of the insurer has not been surrendered, revoked, canceled, annulled, or suspended, or, in the event that it has, that renewed authority has been granted.

SECTION 4 START OF JOB SITE ACTIVITIES, TIME, AND LIQUIDATED DAMAGES

4-1.01 START OF ACTIVITIES AND TIME

Attention is directed to Sections 8-1.04, "Start of Job Site Activities", 8-1.05, "Time", and 8-1.10, "Liquidated Damages", of the Standard Specifications and these Special Provisions.

You must diligently prosecute the work to completion before the expiration of eighty-five (85) working days. The contract time will begin five (5) working days after the date of the Notice to Proceed. The Notice to Proceed is expected to be issued May 1, 2015. The project schedule is attached as part of Exhibit A. Attention is directed to the section titled, "Schedule", of these Special Provisions.

The Notice to Proceed will not be issued until the contract is properly executed, good and approved bonds are furnished, and all insurance requirements have been met and the certificates have been approved by the City. No work under this contract may commence until the City issues the Notice to Proceed. A Storm Water Pollution Prevention Plan (SWPPP), if the SWPPP option is exercised, and a Traffic Control Plan, if any disruption to traffic is required, must be approved prior to the start of work. Attention is directed to the section titled, "Submittals," of these Special Provisions.

Notify the City in writing, forty-eight (48) Hours prior to beginning work.

The City of Napa calendar of holidays located in Appendix B-1 must be used to calculate working days.

4-1.02 LIQUIDATED DAMAGES

Attention is directed to Section 8-1.10, “Liquidated Damages,” of the Standard Specifications and these Special Provisions. You must pay to the City of Napa the sum of **four hundred dollars ($400)** per day, for each and every calendar day’s delay in finishing the work in excess of the number of working days prescribed above.

SECTION 5 SCOPE OF WORK

5-1 SCOPE OF WORK

5-1.01 GENERAL

Attention is directed to Section 5, “Scope of Work,” of the Standard Specifications and these Special Provisions for the requirements and conditions related to the scope of work.

5-1.02 EXAMINATION OF PLANS, SPECIFICATIONS, CONTRACT, AND SITE OF WORK

Attention is directed to the section titled, "Differing Site Conditions," of these Special Provisions regarding physical conditions at the site which may differ from those indicated in "Materials Information," log of test borings or other geotechnical information obtained by the Department's investigation of site conditions.

5-1.03 DIFFERING SITE CONDITIONS

Attention is directed to Section 4-1.06, "Differing Site Conditions (23 CFR 635.109)," of the Standard Specifications and these Special Provisions.

During the progress of the work, if subsurface or latent conditions are encountered at the site differing materially, the party discovering those conditions must promptly notify the other party in writing of the specific differing conditions before they are disturbed and before the affected work is performed including:

A. Material that the Contractor believes may be material that is hazardous waste, as defined in §25117 of the Health & 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.

B. Unknown physical conditions at the site of unusual nature including material appearing to include archaeological artifacts or different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract.

C. City shall promptly investigate the conditions, and if it finds that the conditions do involve hazardous waste or archaeological artifacts, shall direct Contractor to prepare and submit plan to lawfully manage the work area and proceed with contract work.

Contractor shall be obligated to perform all due diligence to investigate site conditions to ensure that all design and construction work required to complete the Project may be completed in accordance with the Scope of Work attached to the “Tulocay Creek Bridge Bicycle/Pedestrian Bridge Project” and any other requirements within this agreement.

This proposal excludes all costs and responsibility for permits, indemnification, handling and/or remediation of asbestos and/or hazardous materials, known or unknown, identified under the Federal Comprehensive, Environmental Response, Compensation and Liability Act of 1980 (CERCLA). This exclusion shall also apply to all other existing and/or proposed federal, state, county or local regulations

that apply to hazardous materials. Costs resulting from de-mobilization/re-mobilization will be paid as additional work.

You will be allowed five (5) days from the notification of the Engineer's determination of whether or not an adjustment of the contract is warranted, in which to file a notice of potential claim in conformance with the provisions of Section 5-1.42, “Requests for Information” and Section 5-1.43, “Potential Claims and Dispute Resolution," of the Standard Specifications and as specified herein; otherwise the decision of the Engineer will be deemed to have been accepted by you as correct. The notice of potential claim will set forth in what respects your position differs from the Engineer's determination and provide any additional information obtained by you, including but not limited to additional geotechnical data. The notice of potential claim must be accompanied by your certification that the following were made in preparation of the bid: a review of the contract, and an examination of the conditions above ground at the site. Adjustments will only be considered for subsurface hazardous material.

5-1.04 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 you encounter materials which you reasonably believe to be asbestos or a hazardous substance as defined in Section 25914.1 and 25914.2 of the Health and Safety Code, and the asbestos or hazardous substance has not been rendered harmless, you may continue work in unaffected areas reasonably believed to be safe. You must immediately cease work in the affected area and report the condition to the Engineer in writing.

In conformance with Section 25914.1 and 25914.2 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, unless disclosed in the bid or contract documents.

If delay of work in the area delays the current controlling operation, you must submit an RFI to request a delay-related time or payment adjustment. Attention is directed to Section 8-1.07, ”Delays,” of the Standard Specifications.

5-2 CONTROL OF WORK

5-2.01 CONSTRUCTION STAKING

Section 5-1.26, “Construction Surveys,” of the Standard Specifications must be deleted in its entirety and replaced with the following:

> This work will consist of furnishing and setting construction marks to establish lines and grades required for the completion of the work as shown on the plans and as specified in the Standard Specifications and these Special Provisions.

You must provide all construction surveying, staking and layout necessary to establish the lines and grades required for the completion of the work shown on the plans and as specified in the Standard Specifications and these Special Provisions. The construction survey crew must follow the California Department of Transportation’s Surveys Manual (Surveys Manual) at all times and be under the direction and “responsible charge” of a Professional Land Surveyor registered in the State of California or a Registered Civil Engineer authorized to practice land surveying in the State of California. Construction stakes must be removed from the site of the work when no longer needed

5-2.03 SANITATION FACILITIES

You must conform to the requirements of Section 13.16.070 of the Napa Municipal Code, requiring the maintenance of not less than one chemical toilet, approved by the Health Officer, on the premises, for each twenty (20) employees or fractional part thereof working at a construction job site, unless specifically exempt from this requirement by the Engineer. Alternate sanitary facilities if suitably located and adequately available may be substituted for the facilities required by Section 13.16.070, subject to

approval of the Engineer. The job site location(s) of the chemical toilet must be approved by the Engineer.

5-2.02 AREAS FOR CONTRACTOR'S USE

Attention is directed to Section 5-1.32, "Areas for Use," of the Standard Specifications and these Special Provisions.

The Contractor will have use of the truck turn-around area south of Tulocay Creek and existing gravel areas. Contractor shall make their own arrangements for any additional staging and storage area(s). Use of the Contractor's staging areas shall be at the Contractor's own risk and the City shall not be held liable for any damage or loss of materials of equipment located within such areas.

Areas within the work area are environmentally sensitive and disturbance to the surrounding area shall be minimized. Contractor shall submit a plan to show staging areas proposed for City approval.

5-2.03 WORK SAFETY

The Contractor shall assume sole and complete responsibility for job site conditions for the duration of the project including, but not limited to, the safety and health conditions on the work site. This requirement shall apply continuously and shall not be limited to normal working hours. Contractor shall comply with all applicable provisions of law including the standards, rules, regulations and orders established by the California Division of Industrial Safety. Contractor shall furnish and use safety devices and safeguards and shall adopt and use practices, means, methods, operations, and processes which are reasonably adequate to render the work site safe and healthful. Contractor shall take all steps necessary to ensure that any hazardous condition is corrected promptly either by the Contractor or by assigning such responsibility to the appropriate subcontractor and ensuring that the corrections are completed. The City, construction manager and the officers, agents or employees, shall not have charge of or responsibility for construction or safety means, methods, techniques, procedures, as these are solely the responsibility of Contractor.

5-2.04 EXTRA WORK

This Section is deleted in its entirety with an exception for hazardous materials. Contractor shall be obligated to perform all due diligence to investigate site conditions to ensure that all design and construction work required to complete the Project may be completed in accordance with the Scope of Work attached to the "Tulocay Creek Bicycle/Pedestrian Bridge" as Exhibit A.

This proposal excludes all costs and responsibility relating to hazardous materials including permits, indemnification, handling and/or remediation of asbestos and/or hazardous materials, known or unknown, identified under the Federal Comprehensive, Environmental Response, Compensation and Liability Act of 1980 (CERCLA). This exclusion shall also apply to all other existing and/or proposed federal, state, county or local regulations that apply to hazardous materials. Costs resulting from de-mobilization/re-mobilization will be paid as additional work.

5-2.05 PROJECT APPEARANCE

The Contractor shall maintain a neat appearance to the work.

In areas visible to the public, the following shall apply:

A. When practicable, broken concrete and debris developed during clearing and grubbing shall be disposed of concurrently with its removal. Construction and/or demolition debris shall be hauled off-site at the end of each workday.

B. Contractor shall furnish trash bins for debris from structure construction. Debris shall be placed in trash bins daily. Contractor shall secure Engineers approval of trash bin location prior to placement of trash bins. The City does not guarantee that a trash bin can be located within the project limits.

C. Forms or falsework that are to be re-used shall be stacked neatly concurrently with their removal. Forms and falsework that are not to be re-used shall be disposed of concurrently with their removal.

5-3 CONTROL OF MATERIALS

5-3.01 DISPOSAL OF MATERIAL

Disposal of material shall conform to Section 5-1.20B “Contractor-Property Owner Agreement” and these Special Provisions.

The Contractor shall make arrangements for disposing of materials outside the street right-of- way, and pay all costs involved. Disposable material shall not be stockpiled in the street beyond the normal working hours. Material shall not be disposed of in any of the following areas:

1. Within the floodway of the City of Napa or the County of Napa.
2. Within the normal channel of any river, creek, stream, ditch, canal, swale or other water course and within the portions of the adjacent flood plain of same as are required to efficiently carry the flood flow, as determined by the Engineer.

Prior to any disposal of material, the Contractor shall obtain written permission from the owner of the proposed disposal site. Contractor shall submit the property owner’s written permission to the Engineer and obtain the Engineer’s written approval before moving the material offsite.

Whenever any material disposal location is visible from a public street, the disposal area shall be left in a neat and uniform manner to the satisfaction of the Engineer.

If the disposal site is within the City of Napa city limits, Contractor shall submit to the Engineer an approved grading permit and plan prior to disposing of the material. A grading permit and plan is required when 50 CY of material or more is disposed either temporarily or permanently at a site. Grading permits are issued at the City of Napa Building Department.

Whenever any material disposal location is visible from the public street, the disposal area shall be left in a neat and uniform manner to the satisfaction of the Engineer.

5-3.02 COMPACTION AND TESTING

Attention is directed to Section 6-3, "Quality”, of the Standard Specifications and these Special Provisions. Compaction of all earthwork materials shall be in accordance with Section 19-5, “Compaction,” of the Standard Specifications and these Special Provisions.

The Contractor will hire an independent and qualified testing firm to perform tests as deemed necessary by the City for acceptance of the various items of work. Compaction tests shall be taken on all subgrade, trench and structural backfill, aggregate base, asphalt concrete material unless otherwise approved by the Engineer.

The cost of the testing for construction of the bridge, its abutments, and approaches will be borne by the Contractor.

The Contractor shall provide a written notification to the Engineer for testing of the work at least forty-eight (48) hours in advance. Any cancellations shall be submitted in writing to the Engineer at least twenty-four (24) hours in advance.

The Contractor shall provide documentation from the qualified and independent testing firm that tested material meets required standards prior to proceeding with sequential tasks.

The provisions of this section shall not relieve the Contractor from the responsibility to control the quality of the work as specified in Section 6, "Control of Materials," of the Standard Specifications.

If accepted aggregate base becomes saturated and/or disturbed, the subgrade must again be proof-rolled and testing may be required. The cost of retesting shall be borne by the Contractor.

5-3.03 SUBMITTALS

GENERAL

Submit samples, drawings, and data for the Engineer's approval which will demonstrate fully that the construction, and the materials and equipment to be furnished will comply with the provisions and intent of this specification.

Submit all samples, drawings and data, unless specified otherwise, in the quantity required for return to the Contractor, plus three, which the Engineer will retain. Label each sample, naming the project, the source of the material, and the proposed location of use on the project.

Restrict each submittal to only one Specification Section or portion thereof. Unless otherwise specifically permitted by the Engineer, make all submittals in groups containing all associated items for complete systems. The Engineer may reject partial submittals as not complying with the provisions of the contract documents.

Specific items to be covered by submittals shall include, as a minimum, the following:

Portland Cement Concrete Mix Design

Aggregate Base

Asphalt Concrete Mix Design

Shop Drawings

Substitutions

Samples

Traffic Control Plan (if disruption of traffic)

Brochures, manuals, and test data on equipment proposed to be furnished

Where the specifications indicate that you must follow manufacturer’s instructions for installation of materials or equipment, those instructions must be submitted to the City prior to the start of work whether or not instructions are listed specifically as a submittal. When referenced, the manufacturers printed installation instructions will have the same effect as if printed in the contract documents.

Make all shop drawings accurately to a scale sufficiently large to show all pertinent features of the item and its method of connection to the work. Make all shop drawing prints in blue or black line on white background. Reproductions of City drawings are not acceptable.

You must not use red color marks on submittals. Duplicate all marks on all copies submitted and ensure marks are photocopy reproducible.

Include legible scale details, sizes, dimensions, performance characteristics, capacities, test data, anchoring details, installation instructions, storage and handling instructions, color charts, layout drawings, parts catalogs, rough-in diagrams, wiring diagrams, controls, weights, and other pertinent data. Provide, at a minimum, the detail provided in the Contract Documents.

Prior to submittal for Engineer's review, use all means necessary to fully coordinate all materials, including the following procedures:

1. Determine and verify all field dimensions and conditions, materials, catalog numbers, and similar data.
2. Coordinate as required with all trades and with all public agencies involved.
3. Secure all necessary approvals from public agencies and others and signify by stamp, or other means, that they have been secured.

You must make all submittals far enough in advance of scheduled dates of installation to provide all required time for reviews, for securing necessary approvals, for possible revision and resubmittal, and for placing orders and securing delivery.

The design engineer must certify that the submittals comply with project plans and specifications and meet all applicable laws, standards, and permit requirement. In scheduling, allow at least seven (7) calendar days for the City's review after the submittals are approved by the design engineer, plus the transit time to and from the City office.

At least one copy of each submittal will be returned to you marked "Approved", "Approved as Noted", "Revise and Resubmit", or "Rejected." Submittals marked "Approved as Noted" need not be resubmitted, but the notes must be followed. If a submittal is rejected, it will be marked to indicate what is unsatisfactory. Resubmit revised drawings or data as indicated, in number of copies specified above.

Approval of each submittal by the Engineer will be general only and must not be construed as:

1. Permitting any departure from the contract requirements.
2. Relieving you of the responsibility for any errors and omissions in details, dimensions, or of other nature that may exist.
3. Approving departures from additional details or instructions previously furnished by the Engineer.
4. Relieving you from verifying all field conditions and dimensions.

Any submittals which are returned to you for resubmittal due to incompleteness or noncompliance more than once will cause additional review time and expense for the City. You must reimburse the City for all costs associated with the third and subsequent review of any submittals. The City reserves the right to deduct resubmittal review costs from amounts due to you.

SUBSTITUTIONS

The contract is based on the materials, equipment, and methods described in the proposal and contract documents. Any proposed substitutions by you are subject to the Engineer's approval.

The design engineer will consider proposals for substitution of materials, equipment, and methods only when such proposals are accompanied by full and complete technical data, and all other information required by the Engineer to evaluate the proposed substitution.

Requests for substitutions must be accompanied by a cover letter stating the reason for the substitution and any cost difference between the specified and proposed material.

Any deviations from the plans and specifications must be clearly identified on the submittal.

CERTIFICATE OF COMPLIANCE

Unless otherwise noted above, or noted elsewhere in these Special Provisions, the following materials will be accepted with the submission of a Certificate of Compliance. Certificates of Compliance must be provided to the City prior to incorporation of the material into the work.

Std. Specification Section	Material
20-2.03	Soil amendment
20-2.07	Fiber
20-2.08	Mulch
20-2.11	Stabilizing emulsion
24-1.02	Lime
39-1.01	Asphalt Concrete
51-1.12F(3)	Preformed elastomeric joint seal
51-1.12H(1)	Plain and fabric reinforced elastomeric bearing pads
51-1.12H(2)	Steel reinforced elastomeric bearing pads
52-11.02B	Epoxy coated bar reinforcement
52-1.04	Reinforcing steel
55-1.03	Structural steel
57-1.02A	Structural timber
57-1.02A	Treated timber and lumber
58-1.03	Lumber and timber
66-3.02	Corrugated steel pipe and corrugated steel pipe arch
67-1.02	Structural metal plate pipe arches and pipe arches
88-1.01	Engineering fabric
90-2.01	Cement
90-2.02A	Concrete coarse aggregate (Cleanness value)
90-2.02B	Concrete fine aggregate (Sand Equivalent)
90-4.03	PCC admixtures
92-1.03	Asphalt (Oil)
93-1.02	Liquid asphalt
94-1.05	Asphaltic emulsion

FORM OF SUBMITTAL

Before submitting materials, You must provide the Engineer a template or example submittal form for the Engineers approval or you may use the sample form located in Appendix B-2. The included sample form can be provided to you in Microsoft Word format if requested.

You must completely identify each submittal and re-submittal by using one of the aforementioned forms and number submittals consecutively beginning with 1. Re-submittals must retain the original number with an added suffix starting with "A". Said form must include the name of the Project Engineer and the Project Name. It must also clearly indicate the Item Description, Manufacturer, Specification Section Reference and Drawing Sheet Number(s) Reference. All submittals must be certified by you for completeness and for compliance with the contract documents with the following Certification:

I hereby certify that all material submitted has been checked for completeness, for correctness, and for compliance with the drawings and specifications, that field dimensions and conditions have been verified, and that exceptions, if any are clearly noted.

Allow a 3" x 4" space on the form for the City's Submittal Stamp.

Transmit all submittals to:

City of Napa
P.O. Box 660
1600 First Street
Napa, CA 94559-0660
Attn.: Mark Tomko.

CLOSE OUT SUBMITTALS

You must furnish and deliver to the City three (3) copies of operating and maintenance instructions and parts lists for all mechanical and electrical equipment furnished on the project. These instructions must be suitably bound in labeled and indexed ring binders. No progress payment in excess of ninety percent (90%) of the Contract amount will be made until all such instructions have been received from you.

5-3.05 BUY AMERICA REQUIREMENTS

Attention is directed to Section 6-2.05, "Buy America," of the Standard Specifications and the requirements set forth by the Surface Transportation Assistance Act of 1982 (Section 165) and the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) Sections 1041(a) and 1048(a).

Attention is additionally directed to the provisions in the State of California Department of Transportation Right of Way Manual Chapter 13, "Utility Relocations," section 13.07.03.05, "Section V. General Conditions:," paragraph V-9 as stated below:

V-9. Federal Aid Clause - Master Contract:

"It is understood that said highway is a Federal aid highway and accordingly, 23 CFR, Chapter 1, Part 645 and 23 U.S.C., section 313 as applicable, is hereby incorporated into this Agreement by reference; provided, however, that the provisions of any agreements entered into between the STATE and the OWNER pursuant to State law for apportioning the obligations and costs to be borne by each, or the use of accounting procedures prescribed by the applicable Federal or State regulatory body and approved by the Federal Highway Administration, governs in lieu of the requirements of said 23 CFR 645."

"The Buy America requirements are further specified in Moving Ahead for Progress in the 21st Century (MAP-21), section 1518."

"Owner hereby certifies that all manufacturing processes for these steel and iron materials, including the application of coatings (unless granted a waiver pursuant to 23 CFR 635.410), have occurred in the United States."

If the project does not have NEPA clearance, the "Buy America" requirements do not apply and the above clauses are not applicable. However, utility work that is accomplished through utility agreements that do not comply with the Buy America requirements (as specified in 23 U.S.C. and 23 CFR 635.410), cannot be used to meet the non-Federal share of costs for a project that uses Federal funds.

A Certificate of Compliance, conforming to the provisions in Section 6-3.05E, "Certificates of Compliance," of the Standard Specifications, and the section titled, "Submittals," of these Special Provisions, must be furnished for steel and iron materials and production. If foreign steel and iron is

used, you must furnish the Engineer acceptable documentation of the quality and value of the materials prior to incorporating them into the work.

5-4 LEGAL RELATIONS AND RESPONSIBILITIES

5-4.01 INSURANCE

Section 7-1.06, “Insurance,” of the Standard Specifications is deleted in its entirety and replaced with the following ***7-1.06 INSURANCE—***

ATTENTION IS DIRECTED TO THE AGREEMENT FOR REQUIREMENTS

5-4.02 INDEMNIFICATION

Section 7-1.05 “Indemnification” of the Standard Specifications is amended to read:

7-1.05 RESPONSIBILITY OF CONTRACTOR AND INDEMNIFICATION

ATTENTION IS DIRECTED TO THE AGREEMENT FOR REQUIREMENTS

5-4.03 LABOR NONDISCRIMINATION

Attention is directed to the following Notice that is required by Chapter 5 of Division 4 of Title 2, California Code of Regulations.

NOTICE OF REQUIREMENT FOR NONDISCRIMINATION PROGRAM (GOV. CODE, SECTION 12990)

Your attention is called to the "Nondiscrimination Clause", set forth in Section 7-1.01A(4), "Labor Nondiscrimination," of the Standard Specifications, which is applicable to all nonexempt state contracts and subcontracts, and to the "Standard California Nondiscrimination Construction Contract Specifications" set forth therein. The Specifications are applicable to all nonexempt state construction contracts and subcontracts of $5,000 or more.

5-4.04 PREVAILING WAGE

Attention is directed to Section 7-1.02K(2), "Wages," of the Standard Specifications.

The general prevailing wage rates determined by the Director of Industrial Relations are available from the California Department of Industrial Relations’ Internet Web Site at: http://www.dir.ca.gov/dlsr/DPreWageDetermination.htm. These prevailing wage documents are not included in the Proposal and Contract for the project. Changes, if any, to the general prevailing wage rates will be available at the same location.

Attention is directed to the Federal minimum wage rate requirements located in Appendix B-3. If there is a difference between the minimum wage rates predetermined by the Secretary of Labor and the general prevailing wage rates determined by the Director of the California Department of Industrial Relations for similar classifications of labor, you and your subcontractors must pay not less than the higher wage rate. The Department will not accept lower State wage rates not specifically included in the Federal minimum wage determinations. This includes "helper" (or other classifications based on hours of experience) or any other classification not appearing in the Federal wage determinations. Where Federal wage determinations do not contain the State wage rate determination otherwise available for use by you and your subcontractors, you and your subcontractors must pay not less than the Federal minimum wage rate which most closely approximates the duties of the employees in question.

5-4.05 PUBLIC SAFETY

You must provide for the safety of traffic and the public in conformance with Section 7-1.04, "Public Safety," of the Standard Specifications and these Special Provisions. Attention is also directed to the section titled, “Temporary Traffic Control,” of these Special Provisions for provisions concerning flagging and traffic handling equipment and devices used in carrying out the provisions of this Public Safety Section.

You must install Type K temporary railing between a lane open to public traffic and an excavation, obstacle or storage area when the following conditions exist:

A. Excavations.—The near edge of the excavation is twelve (12) feet or less from the edge of the lane, except:

   1. Excavations covered with sheet steel or concrete covers of adequate thickness to prevent accidental entry by traffic or the public.
   2. Excavations less than one (1) foot deep.
   3. Trenches less than one (1) foot wide for irrigation pipe or electrical conduit, or excavations less than one foot in diameter.
   4. Excavations parallel to the lane for the purpose of pavement widening or reconstruction.
   5. Excavations in side slopes, where the slope is steeper than 1:4 (vertical:horizontal).
   6. Excavations protected by existing barrier or railing.

B. Temporarily Unprotected Permanent Obstacles.—The work includes the installation of a fixed obstacle together with a protective system, such as a sign structure together with protective railing, and you elect to install the obstacle prior to installing the protective system; or you, for your convenience and with permission of the Engineer, remove a portion of an existing protective railing at an obstacle and does not replace such railing complete in place during the same day.

C. Storage Areas.—Material or equipment is stored within twelve (12) feet of the lane and the storage is not otherwise prohibited by the provisions of the Standard Specifications and these Special Provisions.

The approach end of installed Type K temporary railing must be offset a minimum of fifteen (15) feet from the edge of the traffic lane open to public traffic. The temporary railing must be installed on a skew toward the edge of the traffic lane of not more than one foot transversely to ten (10) feet longitudinally with respect to the edge of the traffic lane. If the fifteen (15) foot minimum offset cannot be achieved, the temporary railing must be installed on the 10 to 1 skew to obtain the maximum available offset between the approach end of the railing and the edge of the traffic lane, and an array of temporary crash cushion modules must be installed at the approach end of the temporary railing.

Type K temporary railing must conform to Section 12-3.08, "Type K Temporary Railing," of the Standard Specifications. Type K temporary railing, conforming to the details shown on 2010 Standard Plan (T3A & T3B), may be used.

Temporary crash cushion modules must conform to Section 12-3.15, "Temporary Crash Cushion Module" of the Standard Specifications.

Except for installing, maintaining and removing traffic control devices, whenever work is performed or equipment is operated in the following work areas, you must close the adjacent traffic lane unless otherwise provided in the Standard Specifications, these Special Provisions, or approved by the Engineer:

Approach Speed of Public Traffic {Posted Limit}	Work Areas
30 to 45 Miles Per Hour	Within 3 feet of a traffic lane

The lane closure provisions of this section must not apply if the work area is protected by permanent or temporary railing or barrier.

When traffic cones or delineators are used to delineate a temporary edge of a traffic lane, the line of cones or delineators must be considered to be the edge of the traffic lane, however, you must not reduce the width of an existing lane to less than ten (10) feet without written approval from the Engineer.

When work is not in progress on a trench or other excavation that required closure of an adjacent lane, the traffic cones or portable delineators used for the lane closure must be placed off of and adjacent to the edge of the traveled way. The spacing of the cones or delineators must be not more than the spacing used for the lane closure.

Suspended loads or equipment must not be moved nor positioned over public traffic or pedestrians.

5-4.07 PROPERTY AND FACILITY PRESERVATION

Attention is directed to Section 5-1.36, "Property and Facility Preservation," of the Standard Specifications and these Special Provisions.

PLANTS

Existing trees, plants, shrubs, lawns, other landscaping, irrigation equipment, and other private property that are not to be removed as shown on the plans or specified in these Special Provisions, and are injured or damaged by reason of the Contractor's operations, shall be replaced by the Contractor. The minimum size of tree replacement shall be no. 24 inch box and the minimum size of shrub replacement shall be 15 gallon container. Replacement tree(s) shall be planted in accordance to City Standard Detail T-1. Replacement ground cover plants shall be from flats and shall be planted 12 inches on center. Replacement of Carpobrotus ground cover plants shall be from cuttings and shall be planted 12 inches on center. Replacement planting shall conform to the requirements in Section 20-4.07, "Replacement," of the Standard Specifications. The Contractor shall water replacement plants in conformance with the provisions in Section 20-4.06, "Watering," of the Standard Specifications.

Damaged or injured plants shall be removed and disposed of outside the highway right of way in conformance with the provisions in Section 7-l.13 of the Standard Specifications. At the option of the Contractor, removed trees and shrubs may be reduced to chips.

Replacement planting of injured or damaged trees, shrubs, and other plants shall be completed prior to the start of the plant establishment period. Replacement planting shall conform to the provisions in Section 20-4.05, "Planting," of the Standard Specifications.

Replacement planting of injured or damaged trees, shrubs and other plants shall be completed prior to acceptance of the work and shall conform to the provisions in Section 20-4.05, “Planting,” of the Standard Specifications.

MONUMENTS

The Contractor shall be responsible for the protection of all existing survey monuments and control points. All monuments destroyed during construction shall be resurveyed and replaced at the Contractor's expense as outlined in the Business and Professions Code, Section 8771.

In the event the Contractor's operations destroy any of the Engineer's survey control points, the Contractor shall replace such control points at his expense, subject to verification by the Engineer. The cost of any such verification of the Engineer's survey control points will be deducted from any moneys due or to become due the Contractor. The Contractor will not be allowed any adjustment in contract time for such verification of survey control points by the Engineer.

5-4.06 PERMITS AND LICENSES

Attention is directed to Section 5-1.20B “Permit, Licenses, Agreements, and Certifications” of the Standard Specifications and these Special Provisions.

The Contractor shall provide any and all licenses and comply with all permits required by the Work. The Contractor shall abide by any and all Federal, State, County and City Laws and Rules affecting the work and shall maintain all required protection for property, employees and the public and insurance in connection with same, for all of which he shall bear necessary expense.

A valid City of Napa Business License is required.

5-4.07 SUBCONTRACTOR AND DBE RECORDS

Attention is directed to the section titled, "Disadvantaged Business Enterprises (DBE)," of these Special Provisions.

Use each DBE subcontractor as listed on the List of Subcontractors form and the "Local Agency Bidder DBE Commitment (Construction Contracts)," Exhibit 15-G, forms unless you receive authorization for a substitution.

The Agency requests you to:

1. Notify the Engineer of any changes to its anticipated DBE participation
2. Provide this notification before starting the affected work

Maintain records including:

1. Name and business address of each 1st-tier subcontractor
2. Name and business address of each DBE subcontractor, DBE vendor, and DBE trucking company, regardless of tier
3. Date of payment and total amount paid to each business

If you are a DBE contractor, include the date of work performed by your own forces and the corresponding value of the work.

Before the 15th of each month, you must submit Form CEM-2404(F), "Monthly DBE Trucking Verification" to the Engineer.

If a DBE is decertified before completing its work, the DBE must notify you or the Engineer in writing of the decertification date. If a business becomes a certified DBE before completing its work, the business must notify you or the Engineer in writing of the certification date. You must submit the notifications to the Engineer. Upon work completion, complete the form titled, "Disadvantaged Business Enterprises (DBE) Certification Status Change," Form CEM-2403(F). The form must be submitted to the Engineer within thirty (30) days from the date of contract acceptance.

Upon work completion, complete the form titled, "Final Report – Utilization of Disadvantaged Business Enterprises (DBE), First-Tier Subcontractors," Form CEM-2402(F). The form must be submitted to the Engineer within ninety (90) days from the date of contract acceptance. The amount of $10,000 will be withheld from payment until a satisfactory form is submitted. The Agency releases the withheld upon submission of the completed form.

5-4.08 PERFORMANCE OF DISADVANTAGED BUSINESS ENTERPRISES

The subcontractors listed by you in conformance with Section 2-1.33C, "Subcontractor List," of the Standard Specifications, must perform the work and supply the materials for which they are listed, unless you have received prior written authorization to perform the work with other forces or to obtain the materials from other sources.

DBEs must perform work or supply materials as listed in the "Local Agency Bidder DBE Commitment (Construction Contracts)," Exhibit 15-G, included in the Bid.

Do not terminate or substitute a listed DBE for convenience and perform the work with your own forces or obtain materials from other sources without authorization from the Agency.

The Agency grants authorization to use other forces or sources of materials for requests that show any of the following justifications:

1. Listed DBE fails or refuses to execute a written contract based on plans and specifications for the project.
2. You stipulate a bond is a condition of executing the subcontract and the listed DBE fails to meet your bond requirements.
3. Work requires a contractor's license and listed DBE does not have a valid license under Contractors License Law.
4. Listed DBE fails or refuses to perform the work or furnish the listed materials.
5. Listed DBE's work is unsatisfactory and not in compliance with the contract.
6. Listed DBE is ineligible to work on the project because of suspension or debarment.
7. Listed DBE becomes bankrupt or insolvent.
8. Listed DBE voluntarily withdraws with written notice from the Contract
9. Listed DBE is ineligible to receive credit for the type of work required.
10. Listed DBE owner dies or becomes disabled resulting in the inability to perform the work on the Contract.
11. The Agency determines other documented good cause.

Notify the original DBE of your intent to use other forces or material sources and provide the reasons. Provide the DBE with five (5) days to respond to your notice and advise you and the Agency of the reasons why the use of other forces or sources of materials should not occur. Your request to use other forces or material sources must include:

1. One (1) or more of the reasons listed in the preceding paragraph
2. Notices from you to the DBE regarding the request
3. Notices from the DBE to you regarding the request

If a listed DBE is terminated or substituted, you make good faith efforts to find another DBE to substitute for the original DBE. The substitute DBE must perform at least the same amount of work as the original DBE under the contract to the extent needed to meet the DBE goal.

The substitute DBE must be certified as a DBE at the time of request for substitution.

Unless the Agency authorizes: (1) a request to use other forces or sources of materials or (2) a good faith effort for a substitution of a terminated DBE, the Agency does not pay for work listed on the "Local Agency Bidder DBE Commitment (Construction Contracts)," Exhibit 15-G, form unless it is performed or supplied by the listed DBE or an authorized substitute.

5-4.09 SUBCONTRACTING

Attention is directed to Section 2-1.33C, "Subcontractor List" and Section 5-1.13, "Subcontracting," of the Standard Specifications and these Special Provisions.

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/dir/Labor_law/DLSE/Debar.html.

You must perform work equaling at least thirty percent (30%) of the value of the original total bid with your own employees and equipment, owned or rented, with or without operators.

Each subcontract and any lower tier subcontract that may in turn be made must conform to Section 14 of these Special Provisions. Noncompliance must be corrected. Payment for subcontracted work involved will be withheld from progress payments due, or to become due, until correction is made. Failure to comply may result in termination of the contract.

5-4.10 RELATIONS WITH CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

Regional Water Quality Control Board Order No. CA 99-074, Order No. R2-2002-0010, and General Permit 99-08DWQ as amended has been issued covering work to be performed under the Napa River Flood Protection Project. You must fully inform yourself of all rules, regulations, resolutions, and conditions that may govern his operations in said area and shall conduct his work accordingly.

The location of the Tulocay Creek Bicycle/Pedestrian Bridge and Trail is within an area controlled by the Regional Water Quality Control Board. Regional Water Quality Control Board Order Nos. (CA 99-074, Order No. R2-2002-0010, and General Permit 2003-0005DWQ) have been issued covering work to be performed under this contract. You must be fully informed of rules, regulations, and conditions that may govern your operations in the areas and must conduct the work accordingly.

Copies of the Orders are attached in Appendix F. A copy of the General Permit may be obtained at the website of the State Water Resources Control Board:

http://www.swrcb.ca.gov/stormwtr/construction.html

Attention is directed to Sections"", 5-1.39, "Damage Repair and Restoration" and 14-11, "Hazardous Waste and Contamination," of the Standard Specifications and the sections titled, "Property and Facility Preservation" and "Water Pollution Control," of these Special Provisions, and Appendix F (California Regional Water Quality Control Board Requirements).

Any changes to conditions established within the permits proposed by you must be submitted to the Engineer for transmittal to the Regional Water Quality Control Board for their approval. Changes must not be implemented until approved in writing by the Regional Water Quality Control Board.

Attention is directed to Section 8-1.05, "Time," of the Standard Specifications and these Special Provisions. Days when your operations are restricted by the requirements of this section must not be considered to be nonworking days whether or not the controlling operation is delayed.

Attention is directed to Section 8-1.05, "Time," of the Standard Specifications and these Special Provisions. Days during which your operations are restricted in the floodway by the requirements of this section must be considered to be nonworking days if these restrictions cause a delay in the current controlling operation or operations.

5-4.11 RELATIONS WITH CALIFORNIA DEPARTMENT OF FISH AND GAME

California Department of Fish and Wildlife (formerly Department of Fish and Game) Permit No. 1600-2008-0420-3 has been issued covering work to be performed under the Napa River Flood Protection Project including the Tulocay Creek Bicycle/Pedestrian Bridge. You must fully inform yourself of all rules, regulations, resolutions, and conditions that may govern his operations in said area and shall conduct his work accordingly.

5-4.12 RELATIONS WITH U.S. ARMY CORP OF ENGINEERS

A Nationwide permit was obtained from the US Army Corps of Engineers for this project. The contractor shall submit preliminary plans that will be submitted to the US Army Corps of Engineers and Napa County Flood Control District to obtain the section 408 approval by the Corps.

5-5 PROSECUTION AND PROGRESS

5-5.01 PROGRESS SCHEDULE AND SCHEDULE OF VALUES

Progress schedules will be required for this contract and shall conform to requirements of Section 8-1.02, "Progress Schedule," of the Standard Specifications and these Special Provisions.

The Contractor shall submit three (3) copies of initial schedules before or at the Preconstruction Conference. The Engineer will review schedules and if not acceptable return review copy within three (3) working days after the receipt. If required, Contractor shall resubmit revised schedules within three (3) working days after return of review copy. A Notice to Proceed will not be issued and no work shall commence prior to review and approval of the schedule.

A two-week rolling schedule shall also be updated and provided to the Engineer at the beginning of each work week. The two-week rolling schedule shall include the Contractor's proposed daily activities and location(s) of work during the coming two-week period. During the contract period, the Contractor shall also coordinate his activities daily with the Engineer. Requests for water main shutdowns, testing, or tie-ins shall be submitted a minimum of **five (5) working days** prior to the requested work. Planned modifications to traffic control shall be submitted a minimum of five (5) working days prior to implementation.

The Contractor shall provide scheduled updates as requested by the Engineer. During the contract period, the Contractor shall also coordinate his activities daily with the Engineer.

Contractor shall submit a schedule of values for the lump sum items listed in Exhibit D to establish a schedule to be utilized in progress payment requests and approvals. If required, Contractor shall resubmit revised schedule of values within three (3) working days after return of review copy. A Notice to Proceed will not be issued and no work shall commence prior to review and approval of the schedule of values.

5-5.02 PROMPT PROGRESS PAYMENT TO SUBCONTRACTORS

Attention is directed to the provisions in Sections 10262 and 10262.5 of the Public Contract Code and Section 7108.5 of the Business and Professions Code concerning prompt payment to subcontractors.

A prime contractor or subcontractor must pay any subcontractor not later than seven (7) days of receipt of each progress payment in accordance with the provision in Section 7108.5 of the California Business and Professions Code concerning prompt payment to subcontractors. The seven (7) days is applicable unless a longer period is agreed to in writing. Any delay or postponement of payment over thirty (30) days may take place only for good cause and with the agency's prior written approval. Any violation of Section 7108.5 will subject the violating contractor or subcontractor to the penalties, sanction and other remedies of that section. This requirement must not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the prime contractor, deficient subcontract performance, or noncompliance by a subcontractor.

The project is subject to the Single Audit Act of 1984, P.L. 98-502, and the Single Audit Act Amendments of 1996, P.L. 104-156. This Act sets forth standards for obtaining consistency and uniformity among Federal, State, and local governments, and non-profit organizations which are expending Federal awards.

5-5.03 WORKING DAYS AND HOURS OF WORK

Attention is directed to Section 8-1.05 "Time of Completion" of the Standard Specifications.

Contractor is responsible to perform public outreach activities and identify sensitive receptors and coordinate work schedule to minimize disruptions to residential areas, businesses, offices, and their guests. Work hours will be allowed Monday through Friday 7am to 7pm with no equipment start up before 8am.

5-5.04 TERMINATION OF CONTROL

Attention is directed to Section 8-1.13, "Contractor's Control Termination," of the Standard Specifications and these Special Provisions:

If, in the opinion of the Engineer, you have at any time during the life of the contract:

a. failed to supply an adequate working force or equipment

b. failed to supply materials of specified quality

c. failed to comply with these Special Provisions

To the extent that such failures violate the intent of the contract, the Engineer will give notice thereof in writing to you and specify in said notice a day by which you must attain full compliance with the provisions of the contract relating to said failures. Should you fail to comply with said notice within the time specified, the Engineer will have full power to temporarily suspend the operation of the contract pending final decision by the Engineer as to termination of the contract.

Notice of temporary suspension will be given to you in writing and a copy thereof will be filed with the Engineer. Upon receipt of said temporary suspension notice, your control of the work will temporarily cease and you must not work on any part of the contract. Within fifteen (15) days of receipt of said notice of temporary suspension, the Engineer will decide whether sufficient grounds are present for termination of your control over the work.

Should the Engineer decide that you have failed to provide means for satisfactory compliance with the contract as directed by the Engineer, within the time specified in the notice to comply, the Engineer will have the power to suspend the operation of the contract.

Upon receiving notice of such suspension, you must discontinue said work, or such parts of it as the Council may designate. Upon such suspension, your control will terminate and thereupon the Council or its duly authorized representative may take possession of all or any part of your materials, tools, equipment and appliances upon the premises, and use the same for the purpose of completing said contract, and hire such force and buy or rent such additional machinery, tools, appliances and equipment and buy such additional materials and supplies at your expense as may be necessary for the proper conduct of the work and for the completion thereof; or may employ other parties to carry the contract to completion, employ the necessary workmen, substitute other machinery or materials and purchase the materials contracted for, in such manner as the Engineer may deem proper; or the Engineer may annul and cancel the contract and relet the work or any part thereof. Any excess of cost arising therefrom over and above the contract price will be charged against you and your sureties, who will be liable therefore.

In the event of such suspension, all money due to you or retained under the terms of this contract will be forfeited to the City, but such forfeiture will not release you or your sureties from liability for failure to fulfill the contract. You and your sureties will be credited with the amount of money so forfeited toward any excess of cost over and above the contract price, arising from the suspension of the operations of the contract and the completion of the work by the City as above provided and you will be so credited with any surplus remaining after all just claims for such completion have been paid.

On completion of the contract, the original Contractor will be entitled to the return of all unused materials, equipment, tools, and appliances, except that they will have no claim on account of unusual and ordinary depreciation, loss and wear and tear.

In the determination of the question whether there has been any such non-compliance with the contract as to warrant the suspension or annulment thereof, the decision of the City will be binding on all parties to the contract.

5-5.05 PERFORMANCE OF SURETIES

In the event of any termination as hereinbefore provided, the City Council shall immediately give written notice thereof to the Contractor and to the Contractor's sureties, and the sureties shall have the right to take over and perform the contract; provided, however, that if the sureties, within five (5) days after receiving, said notice of termination, do not give the City written notice of their intention to take over the performance of the contract, and do not commence performance thereof within five (5) days after notice to the City of such election, the City may take over the work and prosecute the same to completion as hereinbefore provided.

5-5.06 FLOOD EVACUATION

Contractor shall be prepared to evacuate the construction site during a Flood Watch issued by the National Weather Service. The Contractor shall, upon 10 hours notification by the Engineer that the National Weather Service has issued a Flood Warning for the Napa River or Napa Creek, evacuate the construction site. Evacuation shall include removal of all vehicles, equipment, tools, materials, personnel, stockpiled material (including earthwork), trash, etc. Removal shall mean relocation to an area outside the limits of the flood plain, or to an onsite area acceptable to the Engineer, if such an area exists above expected flood elevations. Bridge falsework and constructed permanent improvements only may remain in place. In no event shall the Contractor allow any manmade object or substance to enter or contaminate the floodwaters.

The Contractor shall conduct such a flood evacuation whenever so notified by the Engineer, and as many times as requested prior to final acceptance of the project.

5-5.07 ENVIRONMENTALLY SENSITIVE AREAS

The work area is within an environmentally sensitive area. Full compliance with the environmental permits is required.

5-5.08 ARCHAEOLOGICAL SENSITIVE AREAS

No specific areas have been designated on the plans as "Archaeological Sensitive Areas,". However, no later than one day prior to any disturbance of the work area the representative from the Mishewal-Wappo Tribe must be contacted. The Mishewal-Wappo Tribe may provide a field representative to observe excavation activities. Chairman Gabaldon (707-494-9159) is the contact.

If, during excavation, archaeological resources are discovered, you must stop all work within a fifteen foot radius of the discovery and notify the Engineer of said discovery. Work must not proceed in this area until the significance of the find can be evaluated by the Engineer. If, in the opinion of the Engineer, your operations are delayed or interfered with by reason of such archaeological evaluation, the City will compensate you for such delays to the extent provided in Section 8-1.07, ”Delays,” of the Standard Specifications and these Special Provisions.

5-6 MEASUREMENT AND PAYMENT

5-6.01 PAYMENT

Attention is directed to Sections 9-1.16, “Progress Payments” and 9-1.17, “Payment After Contract Acceptance,” of the Standard Specifications and these Special Provisions.

City of Napa Charter Section 102, “Progressive Payments on Contracts”, requires a ten percent (10%) retention on Public Works contracts. The City of Napa will retain ten percent (10%) of the value of all work done, including Mobilization, as part security for the fulfillment of the contract by you.

No partial payment will be made for any materials on hand which are furnished but not incorporated in the work.

5-6.02 GUARANTEE

Contractor hereby guarantees that all work performed and materials provided under the contract will meet fully with the requirements of the contract documents.

Contractor guarantees all materials and workmanship against defects for a period of one (1) year, unless noted otherwise, from the date of final acceptance of all work performed under the contract. “Final acceptance” as used herein is the filing of a “Notice of Completion” with the County Recorder by the City Engineer.

Contractor assumes responsibility for a similar one-year guarantee, unless noted otherwise, for all work and materials provided or performed by subcontractors, manufacturers, or suppliers.

Contractor hereby agrees that if, within a period of one (1) year, unless noted otherwise, after final acceptance of the work performed under the contract, any portion of the work installed, constructed, or performed by him fails to fulfill any of the requirements of the contract, you will, without delay and with the least practicable inconvenience and without further cost to the City, repair or replace defective or otherwise unsatisfactory work or materials.

Should Contractor fail to act promptly in accordance with this requirement, or should the exigencies of the case require repairs or replacements to be made before you can be notified or can respond to notification, the City may at its option make the necessary repairs or replacements, or perform the necessary work, and you must pay to the City the actual cost of such repairs plus fifteen percent (15%).

Contractor will be responsible for the full expense incidental to making good any and all of the above guarantees and agreements. The above guarantees and agreements are covenants, the performance of which will be binding upon you and your sureties.

The final acceptance of the work will be contingent upon your guaranty which may be either an extension of the original Faithful Performance Bond or a separate Maintenance Bond in the amount of ten percent (10%) of the final contract price in favor of the City. Should you not file said bond as required herein, the City may retain the remaining ten percent (10%) of the final contract price as a cash bond for said one (1) Year period.

5-6.03 RECORDS

You must maintain cost accounting records for the contract pertaining to, and in such a manner as to provide a clear distinction between, the following six categories of costs of work during the life of the contact:

A. Direct costs of contract item work.

B. Direct costs of changes in character in conformance with Section 4-1.05B, "Work-Character Changes," of the Standard Specifications.

C. Direct costs of extra work in conformance with Section 4-1.05, "Changes and Extra Work," of the Standard Specifications.

D. Direct costs of work not required by the contract and performed for others.

E. Direct costs of work performed under a notice of potential claim in conformance with the provisions in Section 5-1.43, “Potential Claims and Dispute Resolution,” of the Standard Specifications.

F. Indirect costs of overhead.

Cost accounting records must include the information specified for daily extra work reports in Section 5-1.27D, “Cost Accounting Records,” of the Standard Specifications and these Special Provisions. The requirements for furnishing the Engineer completed daily extra work reports will only apply to work paid for on a force account basis.

The cost accounting records for the contract must be maintained separately from other contracts, during the life of the contract, and for a period of not less than three (3) years after the date of acceptance of the contract. If you intend to file claims against the City, you must keep the cost accounting records specified above until complete resolution of all claims has been reached.

5-6.04 EXTRA WORK/FORCE ACCOUNT

Attention is directed to Sections 4-1.05 “Changes and Extra Work” and 9-1.04 “Force Account” of the Standard Specifications and these Special Provisions.

All extra work or force account work must be completed upon written direction and approval from the City. All daily extra work reports (DEWR) must be submitted to the project inspector by twelve (12) noon the following working day. The DEWR must only list the labor, hours, materials and equipment used to

perform the extra work. The DEWR reports must be on triplicate forms. When the project inspector signs the form, you will be given a copy for your records. If the project inspector is not available for review of the DEWR's, then you must submit the form to the Engineer within the stated timeframe for approval.

Completed billing for extra work, showing full cost extensions must be submitted to the project Engineer within fifteen (15) working days from the time the extra work was completed along with all backup invoices and material tags.

Your DEWR form and billing, as approved by the Engineer, must be submitted for approval at the preconstruction meeting. The City will approve the forms or require modifications within three (3) working days after being submitted.

SECTION 6 NOT USED

SECTION 7 WARRANTY

7-1.01 GUARANTEE AND MAINTENANCE BOND

The Contractor hereby guarantees that all work performed and materials provided under the contract will meet fully with the requirements of the contract documents.

The Contractor guarantees all materials and workmanship against defects for a period of one year, unless noted otherwise, from the date of final acceptance of all work performed under the contract. "Final acceptance" as used herein shall be the filing of a "Notice of Completion" with the County Recorder by the City Engineer.

The Contractor assumes responsibility for a similar one-year guarantee, unless noted otherwise, for all work and materials provided or performed by subcontractors, manufacturers, or suppliers.

The Contractor hereby agrees that if, within a period of one year, unless noted otherwise, after final acceptance of the work performed under the contract, any portion of the work installed, constructed, or performed by him fails to fulfill any of the requirements of the contract, he will, without delay and with the least practicable inconvenience and without further cost to the City, repair or replace defective or otherwise unsatisfactory work or materials.

Should the Contractor fail to act promptly in accordance with this requirement, or should the exigencies of the case require repairs or replacements to be made before the Contractor can be notified or can respond to notification, the City may at its option make the necessary repairs or replacements, or perform the necessary work, and the Contractor shall pay to the City the actual cost of such repairs plus fifteen percent (15%).

The Contractor shall be responsible for the full expense incidental to making good any and all of the above guarantees and agreements. The above guarantees and agreements are covenants, the performance of which shall be binding upon the Contractor and his sureties.

The final acceptance of the work shall be contingent upon a Contractor's guaranty which may be either an extension of the original Faithful Performance Bond or a separate Maintenance Bond in the amount of fifteen percent (15%) of the final contract price in favor of the City. Should the Contractor not file said bond as required herein, City may retain the remaining fifteen percent (15%) of the final contract price as a cash bond for said One (1) Year period.

SECTION 8 MATERIALS

8-1 MISCELLANEOUS

8-1.01 PREQUALIFIED AND TESTED SIGNING AND DELINEATION MATERIALS

Attention is directed to the most current State of California Department of Transportation, Authorized Materials List for “Signing Delineation Materials.”

SECTION 9 DESCRIPTION OF BRIDGE WORK

9-1.01 GENERAL

Contractor’s Engineer is to supply technical specifications for bridge work.

SECTION 10 CONSTRUCTION DETAILS

10-1 GENERAL

10-1.01 ORDER OF WORK

As required by these Special Provisions, you must follow the sequence of operations as set forth herein.

Attention is directed to the sections titled, “Obstructions” and “Potholing,” of these Special Provisions. While a representative sample of the utilities crossing the project have been potholed and shown on the plans, you must pothole all buried utilities and other man-made objects throughout the proposed work area of work, check for conflicts, and provide the pothole data and written notice of any suspected conflicts between existing and proposed facilities to the Engineer prior to beginning any excavation. Said pothole data and written notice must be provided not less than ten (10) working days prior to beginning any such excavation. For longer facilities such as buried pipelines, you must pothole at a number of locations that is adequate, in the opinion of the Engineer, to determine or verify the type, profile, size, and material of the facility. The cost thereof will be included in the contract prices paid for Potholing, and no additional compensation will be allowed therefore.

Attention is directed to the section titled “Tree Removal,” of these Special Provisions. Prior to removal of trees, you must coordinate with the residents of each property to determine which residents would like to retain all or some of the wood from the removed trees. You must provide the wood requested by the resident in no larger than eighteen (18) inch pieces, cut perpendicular to the grain, and stacked at a location outside of the public right-of-way designated by the resident. No wood or remnants of trees will be left in the public right-of-way. All tree removal work must be completed prior to the installation of any concrete work. The cost thereof will be included in the contract prices paid for Tree Removal, and no additional compensation will be allowed therefore.

10-1.02 WATER POLLUTION CONTROL

Water pollution control work shall conform to the provisions in Section 13, "Water Pollution Control," of the Standard Specifications and these Special Provisions. An Erosion and Sediment Control Plan (ESCP) and Environmental Protection Plan are required as part of the base contract. If the Storm Water Pollution and Prevention Plan (SWPPP) option is exercised by the City, the contractor is responsible for the preparation and compliance with the SWPPP.

GENERAL

The goal of these requirements is to prevent the pollution of storm water runoff from construction projects by keeping pollution out of storm drains, reducing the exposure and discharge of materials and wastes to storm water, and by reducing erosion and sedimentation. Storm drains discharge runoff directly to creeks

and the river without treatment. You must abide by all federal, state, and local regulations regarding water quality as it is affected by construction activities.

The project is within an area controlled by the San Francisco Regional Water Quality Control Board. The project will operate under Construction General Permit Order 2009-0009-DWQ. You must be fully informed of rules, regulations, orders, and conditions that may govern your operations in the areas and must comply with those rules, regulations, orders, and conditions in the performance of the work.

A copy of the Construction General Permit may be obtained at the following website of the State Water Resources Control Board:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Attention is directed to Sections 5-1.39, "Damage Repair and Restoration," of the Standard Specifications and the sections titled, “Removal of Asbestos and Hazardous Substances” and “Property and Facility Preservation," of these Special Provisions.

If the additive option item is exercise, you must prepare and submit a Storm Water Pollution Prevention Plan (SWPPP) and a Project Registration Document (PRD) Site Map for the Engineer’s approval in accordance with the Construction General Permit within five (5) working days of the issuance of the Notice to Proceed. When preparing the SWPPP and PRD Site Map, you must assume a Risk Level of 2 and must assume that the project is not a Linear Underground/Overhead Project, both as defined by the Construction General Permit.

You must be responsible for implementing and maintaining the SWPPP and submitting to the Engineer any revisions thereto in accordance with the Construction General Permit Order referenced above. You are responsible for complying with all requirements associated with Risk Level 2 as outlined in the General Construction Permit, including monitoring of effluent and reporting requirements.

A. The following additional requirements must be met on all projects within the City of Napa Non-hazardous Material / Waste Management

   1. Designated Area - The CONTRACTOR shall propose designated areas of the project site and any staging areas, for approval by the ENGINEER, suitable for material delivery, storage, and waste collection that, to the maximum extent practicable, are near construction entrances and away from catch basins, gutters, drainage courses and creeks.

   2. Granular Material –

      a. The CONTRACTOR shall store granular material at least ten feet away from catch basin and curb returns.

      b. The CONTRACTOR shall not allow granular material to enter the storm drains or creeks.

      c. When rain is forecast within 24 hours or during wet weather, the ENGINEER may require the CONTRACTOR to cover granular material with a tarpaulin and to surround the material with sand bags.

   3. Dust Control

      a. The CONTRACTOR shall use reclaimed water to control dust on a daily basis or as directed by the ENGINEER.

   4. Street Sweeping

      a. At the end of each working day or as directed by the ENGINEER, the CONTRACTOR shall clean and sweep roadways and on-site paved areas of all materials attributed to or involved in the work. The CONTRACTOR shall not use water to flush down streets in place of street sweeping.

   5. Recycling

      a. The CONTRACTOR shall recycle aggregate base material, asphalt concrete, and Portland cement concrete.

b. In addition, to the maximum extent practicable, the CONTRACTOR shall reuse or recycle any useful construction materials generated during the project providing the material complies with State and Federal regulations.

6. Disposal

a. At the end of each working day, the CONTRACTOR shall collect all scrap, debris, and waste material, and dispose of such materials properly.

b. The CONTRACTOR shall inspect dumpsters for leaks and contact trash hauling contractors to replace or repair dumpsters that leak.

c. The CONTRACTOR shall not discharge water on-site from cleaning dumpsters.

d. The CONTRACTOR shall arrange for regular waste collection before dumpsters overflow.

B. Hazardous Material / Waste Management

1. Storage

a. The CONTRACTOR shall label and store all hazardous materials, such as pesticides, paints, thinners, solvents, and fuels; and all hazardous wastes, such as waste oil and antifreeze; in accordance with the City of Napa Hazardous Materials Storage Ordinance and all applicable State and Federal regulations.

b. The CONTRACTOR shall store all hazardous materials and all hazardous wastes in accordance with secondary containment regulations, and it is recommended that these materials and wastes be covered, as needed to avoid potential management of collected rain water as a hazardous waste.

c. The CONTRACTOR shall keep an accurate, up-to-date inventory, including Material Safety Data Sheets (MSDSs), of hazardous materials and hazardous wastes stored on-site, to assist emergency response personnel in the event of a hazardous materials incident.

2. Usage

a. When rain is forecast within 24 hours or during wet weather, the ENGINEER may prevent the CONTRACTOR from applying chemicals in outside areas.

b. The CONTRACTOR shall not over-apply pesticides or fertilizers and shall follow material manufacturer's instructions regarding uses, protective equipment, ventilation, flammability, and mixing of chemicals. Over-application of a pesticide constitutes a "label violation" subject to an enforcement action by the Napa County Agriculture Department.

3. Disposal

a. The CONTRACTOR shall arrange for regular hazardous waste collection to comply with time limits on storage of hazardous wastes.

b. The CONTRACTOR shall dispose of hazardous waste only at authorized and permitted Treatment, Storage, and Disposal Facilities, and use only licensed hazardous waste haulers to remove the waste off-site, unless quantities to be transported are below applicable threshold limits for transportation specified in State and Federal regulations.

C. Spill Prevention and Control

1. The CONTRACTOR shall keep a stockpile of spill cleanup materials, such as rags or absorbents, readily accessible on-site.

2. The CONTRACTOR shall immediately contain and prevent leaks and spills from entering storm drains, and properly clean up and dispose of the waste and cleanup materials. If the waste is hazardous, the CONTRACTOR shall handle the waste as described in section A.2.c above.

3. The CONTRACTOR shall not wash any spilled material into streets, gutters, storm drains, or creeks and shall not bury spilled hazardous materials.

4. The CONTRACTOR shall report any hazardous materials spill to City of Napa Dispatch at (707) 257-9223.

D. Vehicle / Equipment Cleaning

1. The CONTRACTOR shall not perform vehicle or equipment cleaning on-site, in any staging area or in the street using soaps, solvents, degreasers, steam cleaning equipment, or equivalent methods.
2. The CONTRACTOR shall perform vehicle or equipment cleaning, with water only, in a designated, bermed area that will not allow rinse water to run off-site or into streets, gutters, storm drains, or creeks.

E. Vehicle / Equipment Maintenance and Fueling

1. The CONTRACTOR shall perform maintenance and fueling of vehicles or equipment in a designated, bermed area or over a drip pan that will not allow run-on of storm water or runoff of spills.
2. The CONTRACTOR shall use secondary containment, such as a drip pan, to catch leaks or spills any time that vehicle or equipment fluids are dispensed, changed, or poured.
3. The CONTRACTOR shall keep a stockpile of spill cleanup materials, such as rags or absorbents, readily accessible on-site.
4. The CONTRACTOR shall clean up leaks and spills of vehicle or equipment fluids immediately and dispose of the waste and cleanup materials as hazardous waste, as described in section A.2.c above.
5. The CONTRACTOR shall not wash any spilled material into streets, gutters, storm drains, or creeks and shall not bury spilled hazardous materials.
6. The CONTRACTOR shall report any hazardous materials spill to City of Napa Dispatch at (707) 257-9223.
7. The CONTRACTOR shall inspect vehicles and equipment arriving on-site for leaking fluids and shall promptly repair leaking vehicles and equipment. Drip pans shall be used to catch leaks until repairs are made.
8. The CONTRACTOR shall recycle waste oil and antifreeze, to the maximum extent practicable.
9. The CONTRACTOR shall comply with Federal, State, and City requirements for aboveground storage tanks.

F. Contractor Training and Awareness

1. The CONTRACTOR shall train all employees/ subcontractors on the storm water pollution prevention requirements contained in these Specifications.
2. The CONTRACTOR shall inform subcontractors of the storm water pollution prevention contract requirements and include appropriate subcontract provisions to ensure that these requirements are met.
3. The CONTRACTOR shall post warning signs in areas treated with chemicals.

ACTIVITY-SPECIFIC REQUIREMENTS

The following requirements shall be met on all projects within the City of Napa that include the listed activities.

A. Dewatering Operations

1. Sediment Control

a. The CONTRACTOR shall route water through a control measure, such as a sediment trap, sediment basin, or Baker tank to remove settleable solids prior to discharge to the storm drain system.

b. Approval of the control measure shall be obtained in advance from the ENGINEER.

c. Filtration of the water following the control measure may be required on a case-by-case basis

d. If the ENGINEER determines that the dewatering operation would not generate an appreciable amount of settleable solids, the control measure requirement in 1) above may be waived.

e. The CONTRACTOR shall reuse water for other needs, such as dust control or irrigation, to the maximum extent practicable.

2. Contaminated Groundwater

a. If the project is with in an area of known groundwater contamination, then water from dewatering operations shall be tested prior to discharge. If the water quality meets Regional Water Quality Control Board (RWQCB) standards, then it may be discharged to the storm drain. If the water quality meets City of Napa Municipal Code section 8.36, then it may be discharged to the sanitary sewer with prior approval from the Napa Sanitation District. Otherwise, the water shall be treated or hauled off-site for proper disposal.

b. If the project is not within an area of known groundwater contamination, then monitoring shall only be required if directed by the ENGINEER. The CONTRACTOR shall follow section A.2.a above, if contamination is found.

c. If the project is found to be within an area of groundwater contamination not identified by the City in the project specifications, a change order shall be negotiated to cover additional work performed by the CONTRACTOR pursuant to 4-1.03D “Extra Work” of the Standard Specifications.

B. Paving Operations

1. Project Site Management

a. When rain is forecast within 24 hours or during wet weather, the ENGINEER may prevent the CONTRACTOR from paving.

b. The ENGINEER may direct the CONTRACTOR to protect drainage courses by using control measures, such as earth dike, straw waddles, and sand bag, to divert runoff or trap and filter sediment.

c. The CONTRACTOR shall place drip pans or absorbent material under paving equipment when not in use.

d. The CONTRACTOR shall cover catch basins and manholes when paving or applying seal coat, tack coat, slurry seal, or fog seal.

2. Paving Waste Management

a. The CONTRACTOR shall not sweep or wash down excess sand placed as part of a sand seal or to absorb excess oil) into gutters, storm drains, or creeks. Instead, the CONTRACTOR shall either, collect the sand and return it to the stockpile, or dispose of it in a trash container. The CONTRACTOR shall not use water to wash down fresh asphalt concrete pavement.

C. Saw Cutting

1. During saw cutting, the CONTRACTOR shall cover or barricade catch basins using control measures, such as filter fabric, straw bales, sand bags, and fine gravel dams, to keep slurry out of the storm drain system. When protecting a catch basin, the CONTRACTOR shall ensure that the entire opening is covered.

2. The CONTRACTOR shall shovel, absorb, or vacuum saw cut slurry and pick up the waste prior to moving to the next location or at the end of each working day, whichever is sooner.

3. If saw cut slurry enters catch basins, the CONTRACTOR shall remove the slurry from the storm drain system immediately.

D. Contaminated Soil Management

1. On all projects involving grading or excavation, the CONTRACTOR shall look for contaminated soil as evidenced by site history, discoloration, odor, differences in soil properties, abandoned underground tanks or pipes, or buried debris. If the project is not within an area of known soil contamination and no evidence of soil contamination is found, then testing of the soil shall only be required if directed by the ENGINEER. The CONTRACTOR shall follow section D.2 and D.3 below, if contamination is found.

2. If the project is within an area of known soil contamination or evidence of soil contamination is found, then soil from grading or excavation operations shall be tested. The soil shall be managed as required by the Napa County Environmental Health Department or other agency.

3. If the project is found to be within an area of soil contamination not identified by the City in the project specifications, a change order shall be negotiated to cover additional work performed by the CONTRACTOR pursuant to 4-1.03D “Extra Work” of the Standard Specifications.

E. Concrete, Grout, and Mortar Waste Management

1. Material Management - The CONTRACTOR shall store concrete, grout, and mortar away from drainage areas and ensure that these materials do not enter the storm drain system.

2. Concrete Truck/Equipment Wash Out

a. The CONTRACTOR shall not wash out concrete trucks or equipment into streets, gutters, storm drains, or creeks.

b. The CONTRACTOR shall perform washout of concrete trucks or equipment off-site or in a designated area on-site where the water will flow onto dirt or into a temporary pit in a dirt area. The CONTRACTOR shall let the water percolate into the soil and dispose of the hardened concrete in a trash container. If a suitable dirt area is not available, then the CONTRACTOR shall collect the wash water and remove it off-site.

F. Earthwork - The CONTRACTOR shall maximize the control of erosion and sediment by using the BMPs for erosion and sedimentation in the latest edition of the *California Storm Water Best Management Practice Handbook – Construction Activity*.

G. Striping, Pavement Markings, and Pavement Markers Removal and Installation

1. The CONTRACTOR shall conform to the provisions of the sub-section titled “A. Non hazardous Material/Waste Management,” of this “Water Pollution Control” section.

10-1.03 PRE-CONSTRUCTION MEETING

A Pre-Construction Meeting will be held after the contract is signed and prior to issuance of the Notice to Proceed. The Engineer will designate the time and place. The Prime Contractor (and major sub-contractors as required) must attend the meeting. The Contractor’s representative at this conference shall include all major superintendents for the work, including the superintendent for the horizontal directional drilling operations, and may include major subcontractors.

At, or prior to, this meeting the Prime Contractor must submit:

1. A copy of their City of Napa business license

2. A letter or memorandum designating the authorized representative who shall have authority to represent and act for the Contractor during the entire contract period

3. A letter or memorandum designating two 24-hour emergency contact persons and their telephone numbers.
4. A project schedule per the section titled “Progress Schedule” of these Special Provisions.
5. A traffic control plan (if traffic on City streets will be disrupted) per the section titled “Maintaining Traffic” of these Special Provisions.

10-1.04 OBSTRUCTIONS

Attention is directed to Section 5-13.6D, "Non-Highway Facilities," and Section 15, "Existing Highway Facilities," of the Standard Specifications and these Special Provisions.
Attention is directed to the existence of certain underground facilities that may require special precautions be taken by the Contractor to protect the health, safety and welfare of workers and of the public. Facilities requiring special precautions include, but are not limited to: conductors of petroleum products, oxygen, chlorine, and toxic or flammable gases; natural gas in pipelines greater than 6 inches in diameter or pipelines operating at pressures greater than sixty (60) pounds per square inch (gage); underground electric supply system conductors or cables, with potential to ground of more than 300 V, either directly buried or in a duct or conduit which do not have concentric grounded or other effectively grounded metal shields or sheaths.

The Contractor shall notify the Engineer and the appropriate regional notification center for operators of subsurface installations at least two (2) working days, but not more than fourteen (14) calendar days, prior to performing any excavation or other work close to any underground pipeline, conduit, duct, wire or other structure. Regional notification centers include, but are not limited to, the following:

Notification Center	Telephone Number
Underground Service Alert-Northern California (USA)	(800) 642-2444 (800) 227-2600

10-1.05 TEMPORARY TRAFFIC CONTROL

Flagging, signs, and all other traffic control devices furnished, installed, maintained, and removed when no longer required shall conform to the provisions in Section 12, "Temporary Traffic Control," of the Standard Specifications and these Special Provisions.

Category 1 traffic control devices are defined as those devices that are small and lightweight (less than 45 kg), and have been in common use for many years. The devices shall be known to be crashworthy by crash testing, crash testing of similar devices, or years of demonstrable safe performance. Category 1 traffic control devices include traffic cones, plastic drums, portable delineators, and channelizers.

If requested by the Engineer, the Contractor shall provide written self-certification for crashworthiness of Category 1 traffic control devices. Self-certification shall be provided by the manufacturer or Contractor and shall include the following: date, Federal Aid number (if applicable), expenditure authorization, district, county, route and kilometer post of project limits; company name of certifying vendor, street address, city, state and zip code; printed name, signature and title of certifying person; and an indication of which Category 1 traffic control devices will be used on the project. The Contractor may obtain a standard form for self-certification from the Engineer.

Category 2 traffic control devices are defined as those items that are small and lightweight (less than 45 kg), that are not expected to produce significant vehicular velocity change, but may otherwise be potentially hazardous. Category 2 traffic control devices include: barricades and portable sign supports.

Category 2 devices purchased on or after October 1, 2000 shall be on the Federal Highway Administration (FHWA) Acceptable Crashworthy Category 2 Hardware for Work Zones list. This list is maintained by FHWA and can be located at the following internet address:

http://safety.fhwa.dot.gov/fourthlevel/hardware/listing.cfm?code=workzone

The Department maintains a secondary list at the following internet address:

http://www.dot.ca.gov/hq/traffops/signtech/signdel/pdf.htm

If requested by the Engineer, the Contractor shall provide a written list of Category 2 devices to be used on the project at least 5 days prior to beginning any work using the devices. For each type of device, the list shall indicate the FHWA acceptance letter number and the name of the manufacturer.

10-1.06 CONSTRUCTION AREA SIGNS

Construction area signs shall be furnished, installed, maintained, and removed when no longer required in conformance with the provisions in Section 12, "Temporary Traffic Control," of these Special Provisions.

Attention is directed to the section titled, "Prequalified and Tested Signing and Delineation Materials," of these Special Provisions. Type II retroreflective sheeting must not be used on construction area sign panels.

You must notify the appropriate regional notification center for operators of subsurface installations at least two (2) working days, but not more than fourteen (14) calendar days, prior to commencing excavation for construction area sign posts. The regional notification centers include, but are not limited to, the following:

Notification Center	Telephone Number
Underground Service Alert-Northern California (USA)	1-800-642-2444 1-800-227-2600

Excavations required to install construction area signs must be performed by hand methods without the use of power equipment, except that power equipment may be used if it is determined there are no utility facilities in the area of the proposed post holes.

Sign substrates for stationary mounted construction area signs may be fabricated from fiberglass reinforced plastic as specified under "Prequalified and Tested Signing and Delineation Materials" of these Special Provisions.

You may be required to cover certain signs during the progress of the work. Signs that are no longer required or that convey inaccurate information to the public must be immediately covered, removed, or the information must be corrected. Covers for construction area signs must be of sufficient size and density to completely block out the complete face of the signs. The retroreflective face of the covered signs must not be visible either during the day or at night. Covers must be fastened securely so that the signs remain covered during inclement weather. Covers must be replaced when they no longer cover the signs properly.

You must notify residents and property owners in writing forty-eight (48) hours (excluding weekends and holidays) prior to performing any work at the site.

The notification form to be provided to residents and property owners must be submitted to the City for review and approval. Attention is directed to the section titled “Submittals,” of these Special Provisions. Street parking may be restricted as necessary to facilitate construction activity. “No Parking” signs, as required, must be placed by you forty-eight (48) hours in advance of the parking restriction. “No Parking” signs must have the following information:

"Tow Away, No Parking"

Date of Restriction

Time of Restriction

Construction Zone

"Vehicles in Violation Subject to Tow at Owner's Expense"

"Napa Police Department: 707-257-9223"

CVC 22658 (1); CVC 22651 (L)

"No Parking" signs shall have red letters on a white background. "No Parking" signs shall be spaced no more than thirty (30) feet apart. The Contractor will not be allowed to restrict parking in all areas of the project for the entire duration of the project to facilitate their work. The placement of "No Parking" signs shall be conducted in a manner that reasonably reflects the location of the work at any given time during the project.

The contractor shall maintain or update information contained on the signs on a daily basis.

The cost of furnishing, installing, maintaining and removing signs, sign covers, lights, flares, temporary railing, barricades, flagmen, guards and all construction area traffic control devises shall be borne by the Contractor.

10-1.07 MAINTAINING TRAFFIC

Attention is directed to Sections 7-1.03, "Public Convenience" and 12-4, "Maintaining Traffic" of the Standard Specifications and the Section titled "Public Safety" of these Special Provisions. Nothing in these Special Provisions shall be construed as relieving the Contractor from the responsibilities specified in the Standard Specifications.

The Contractor must furnish and erect Standard W20-1 "Road Work Ahead" and Standard G20-2 "End Road Work" signs to provide advance warning to the traffic at the job site. W20-1 and G20-2 signs must also be installed along all side streets entering the work area. You must submit a traffic control plan that includes the exact locations of the signs.

Prior to saw cutting of existing curb, gutter, sidewalk, driveway, and asphalt concrete for removal and up to the time the new improvements are opened to the public, You must erect and maintain necessary signs and barricades as required in these Special Provisions.

Lane closures on City streets and private access drives shall conform to the provisions in section "Traffic Control System for Lane Closure" of these Special Provisions. The term closure, as used herein, is defined as the closure of a traffic lane or lanes, including ramp or connector lanes, within a single traffic control system. Bicycle traffic shall be maintained per these Special Provisions.

No work that would require a lane closure will be performed.

The Contractor shall provide for the safe and orderly movement of traffic at all times during construction. On all streets, one lane in each direction shall be maintained at all times. Temporary street closures or providing only one lane for both directions may be approved by the Engineer provided adequate circulation is maintained and/or adequate flagmen and signage satisfactory to the Engineer is provided.

No street closures will be allowed unless directed by the Engineer. If the Contractor desires a street closure, the Contractor shall submit a written request, accompanied with a traffic control plan, to the Engineer for review and approval. The request shall state the reason, locations, and times for the closure, and shall be submitted a minimum of five (5) working days prior to the request.

The Engineer shall approve or deny the request within three (3) working days after the receipt of the request. If approved, the Contractor shall notify the Police and Fire Department of the City, the Division of Forestry, local ambulance services, the V.I.N.E. Bus Service, Napa Garbage Service, Napa Valley

Unified School District Transportation Department and the U.S. Post Office in writing, forty-eight (48) hours in advance of all lane/street closures and keep the Fire Department posted at all times regarding available access to the streets. The Contractor shall also notify United Parcel Service (UPS), Federal Express and other mail delivery services of planned lane/street closures and the current schedule.

Signage stating that construction is ahead and stating no access shall be installed at the entry to the informal pathways. No street closures will be allowed overnight.

Access for emergency vehicles shall be provided for at all times. Any repairs due to damage caused by emergency vehicle usage during the periods of street closure must be paid for as extra work.

The Contractor shall furnish, install, maintain, and remove barricades, lights and signs as required, and shall provide flagmen and other facilities to safeguard adequately the general public and the work as may be deemed necessary by the Engineer. Changeable message signs for use on the project will be supplied by the City.

Traffic signs, flashing lights, lighted arrow boards, barricades, temporary railings, and other traffic safety devices used to control traffic shall conform to the requirements of Section 12, “Construction Area Traffic Control Devices,” of the Standard Specifications and the current edition of the Manual of Uniform Traffic Control Devices (including the California Supplement). Flashing lights shall be provided on each barricade. Contractor shall inspect all safety devices at the beginning of each work day.

The Contractor shall take extra care to minimize disruption to the adjacent residences/businesses during the progress of work. The Contractor shall provide access to all residences and/or businesses at all times during the progress of the work. The Contractor shall phase the work to ensure that access to each residence and business is provided at all times. Commercial driveways shall be provided with at least ten (10) feet wide of unobstructed opening at all times.

Subject to the notification of property owners and approved in advance by the Engineer in writing, temporary closure of driveways may be allowed per these Special Provisions. However, unless a driveway is being reconstructed, a driveway must not remain closed outside of the hours of work as specified in the section titled, “Working Days and Hours of Work,” of these Special Provisions unless otherwise authorized by the Engineer. If a property has more than one (1) driveway, no more than one (1) driveway closure will be allowed at any time unless otherwise approved by the Engineer. In the case of driveway reconstruction, a driveway must not remain closed or inaccessible for more than five (5) continuous working days (beginning on a Monday), to allow for demolition, preparation, PCC installation and, unless otherwise authorized by the Engineer. Prior to closure of driveways, you must coordinate and notify the property owner or resident at least twice of such closure. Closure notices must be given to the property owner and/or resident twenty-four (24) hours **and** one (1) hour prior to each closure. A copy of the closure notice must be furnished to the Engineer for review and approval prior to each closure.

The Contractor shall file, with the City Engineer and Police Department, the name and telephone number of his representative (provide minimum two contacts) to be notified after normal working hours and on weekends, in case of emergency. This information shall be provided at the Preconstruction Meeting.

The Contractor shall submit, prior to or at the Preconstruction Meeting, a traffic control plan which conforms to all requirements of these Special Provisions and the Standard Specifications. This plan shall include all lane closures, construction area signs, flag protection, changeable message signs, detours, and parking prohibitions. Traffic control plans shall conform to the most current edition of the “California Manual on Uniform Traffic Control Devices for Streets and Highways”. No work shall commence prior to the submittal and approval of a satisfactory traffic control plan. A traffic control plan shall not be deemed satisfactory unless it conforms to the requirements of the aforementioned manual. More than one traffic control plan may be required for different phases of the work, and each traffic control plan shall conform to the requirements of these Special Provisions and the Standard Specifications.

10-1.08 CONSTRUCTION WATER

Construction Water and applying watering shall conform to the provisions in Section 17, "Watering," of the Standard Specifications and these Special Provisions.

Water required for the project shall be taken through a hydrant meter supplied by the City. The backflow device provided with the hydrant meter must remain attached immediately behind the water meter with no exception. No direct connections to fire hydrants, use of unmetered water services, or unauthorized connections to the existing water system will be allowed.

The Contractor is responsible for paying the deposit and fee and all quantity charges associated with the use of the hydrant meter and backflow device. Fees are to be paid at the City of Napa's Finance Department in City Hall at 955 School Street in Napa with the copy of the Construction Water Request Form.

The Contractor who applies for the hydrant meter and backflow device is fully responsible for protecting the meter, backflow device, and hydrant serving the hydrant meter from damages. The Contractor's deposit will not be returned if the equipment is lost, damaged, or stolen, and the Contractor will be required to obtain a new working hydrant meter from the City with payment of a new deposit.

The Contractor may not relocate a hydrant meter and backflow device. The Contractor shall contact the City's Corporation Yard at 707-257-9544 for hydrant meter relocation requests. The Contractor will be billed for each meter relocation. The Contractor shall additionally contact the City's Corporation Yard when they are finished with the hydrant meter and want to close the account. Upon return of the hydrant meter and backflow device in good working order and undamaged, $1,750 shall be refunded to the Contractor. Any repairs or damages to the hydrant meter and/or backflow device will be deducted from the refund.

The current fees for construction water as of October 1, 2012, are as follows:

Connection Charges		
	Hydrant Meter Deposit	$1,750.00
	Hydrant Meter Set Fee (non-refundable)	$140.00
	Moving Meter within Project	$35.00
Construction Water Rates		
	Each 1,000 gallons	$7.05
	Per day service charge (2 day minimum)	$10.00
	or 7 days	$50.00

Meter will be set within two (2) working days of receipt of payment.

10-1.09 FINISHING WORK

Finishing Work shall conform to the requirements of Section 22, "Finish Roadway - Description," of the Standard Specifications and these Special Provisions.

Topsoil for filling and grading between the curb and sidewalk and filling, grading, and shaping behind the curb and sidewalk, and within the project area shall be in conformance with Section 20-2.01 "Topsoil" of the Standard Specifications, Section 4.02.06 "Landscaping Materials" of the City Standard Specifications, and these Special Provisions.

Cleanup of the roadway of all construction debris at the end of each workday shall be included as part of this section.

10-2 EARTHWORK AND STREETS

10-2.01 DUST CONTROL

Attention is directed to Section 14-9.03 “Dust Control,” and the section titled “Water Pollution Control,” of the Standard Specifications and these Special Provisions.

The Contractor shall be familiar with and comply with all monitoring, reporting, notifications, and control requirements of agencies having jurisdiction over air quality.

The Contractor shall prevent the formation of an airborne dust nuisance by watering work areas as required by this section and pursuant to the Contractor’s LSQWMP until the project is completed and accepted. The amount of water used shall not be excessive to cause soil carry-over or wash-off outside the boundaries of the working area. If soil wash-off occurs, the Contractor shall immediately notify the Engineer and identify the area where wash-off occurred. The Contractor shall provide polyethylene sheeting to place underneath and over any stockpiled soil. The stockpile shall be covered daily after completion of work. The sheeting shall be adequately weighted or secured to keep the sheeting in place during non-work periods.

10-2.02 CLEARING, GRUBBING, AND LANDSCAPE RESTORATION

Clearing and grubbing shall conform to the provisions in Section 16, “Clearing and Grubbing,” and the section titled “Tree Removal” of the Standard Specifications and these Special Provisions.

Vegetation shall be cleared and grubbed only within the excavation and embankment slope lines.

At locations where there is no grading adjacent to a bridge or other structure, clearing and grubbing of vegetation shall be limited to 5 feet outside the physical limits of the bridge or structure.

Activities controlled by the Contractor, except cleanup or other required work, shall be confined within the graded areas of the roadway.

Clearing and grubbing shall include the removal and disposal of all vegetation, objectionable material including debris and loose rocks, and other items within the construction areas in order to perform the work. Within the limits of clearing, the areas below the natural ground surface shall be grubbed to a depth necessary to remove all stumps, roots, buried logs and all other objectionable material. In areas where P.C.C. will be placed, objectionable material shall be removed to firm undisturbed mineral soil only.

Landscape restoration includes the removal, relocation, height adjustment, and disposal of landscaping and irrigation equipment within the construction areas, as shown on the plans and as directed by the Engineer. You must salvage (reuse or return items to the property owner) existing landscaping materials, including turf, to the greatest extent possible.

All existing vegetation, highway facilities, and private property that have not been identified for removal shall be protected from injury or damage. In the event that existing vegetation and/or facilities to remain are damaged by the Contractor’s operations, the Contractor shall replace the damaged items in kind and to the satisfaction of the property owner and the Engineer. Such items may include, but are not limited to, the reconnection of landscape electrical and/or irrigation to function as did prior to Contractor’s operations.

Tree branches extending from private property over the public right of way shall only be removed per the Engineer’s direction. Trees to be removed less than 6 inches DBH, as marked by the Engineer, shall be included in this section. Tree diameters are measured at approximately 4.5 feet above existing grade, further described as DBH (Diameter at Breast Height).

Construction and/or demolition debris, including but not limited to: vegetative matter, trees, roots, chips, etc., shall be hauled off site and disposed of by the Contractor.

Nothing herein shall be construed as relieving the Contractor of their responsibility for final cleanup of the highway as provided in Section 4-1.02, “Final Cleaning Up” of the Standard Specifications.

Vegetable growth from clearing and grubbing operations may be disposed of in embankments in conformance with the provisions in "Earthwork" of these Special Provisions.

10-2.03 EARTHWORK

Earthwork shall conform to the provisions in Section 19, "Earthwork," and the section titled “Finishing Work,” of the Standard Specifications and these Special Provisions.

Upon the Engineer’s approval of the subgrade, placement of the aggregate base material may proceed.

All surplus excavated material shall become the property of the Contractor and shall be disposed of in conformance with the provisions in the section titled "Disposal of Material," of these Special Provisions.

10-2.04 EXISTING FACILITIES

The work performed in connection with various existing highway facilities shall conform to the provisions in Section 15, "Existing Facilities," of the Standard Specifications and these Special Provisions.

10-2.05 POTHOLING

Attention is directed to the current edition of the USA North’s California Excavation Manual, and the sections titled, “Property and Facility Preservation” and “Order of Work” of these Special Provisions.

Potholing shall be, at the option of the Contractor, either performed by hand digging or by vacuum excavation.

Hand digging shall be performed by excavating a pothole by manual means with hand held, non-mechanical equipment such as a shovel or hand auger.

Vacuum excavation shall consist of air or water pressure to break up the soil and a vacuum device to collect the spoils. The Contractor shall determine if air or water vacuum excavation shall be used dependent upon specific site and environment characteristics. Soil type such as a heavy clay may require water vacuum excavation. Air vacuum excavators shall be utilized if mud from water vacuum excavators cannot be disposed of properly. Air vacuum excavators shall be used if damage to utilities, such as cutting through cables, will occur with the use of water vacuum excavators. USA North and all facility owners shall be notified prior to start of work if vacuum excavation method is to be used.

1. Air: Air vacuum excavators shall utilize a high velocity air stream to penetrate, expand, and break up the soil. The loosened particles of soil and rock shall be removed from the excavation through the use of a vacuum.
2. Water: Water vacuum excavation systems shall excavate the pothole using high pressure water to reduce and loosen the soil. The wet soil and mud slurry shall be removed to a spoil tank using a vacuum.

The Contractor shall notify the appropriate regional notification center for operators of subsurface installations at least two (2) working days, but not more than fourteen (14) calendar days, prior to commencing excavation or other work close to any underground pipeline, conduit, duct, wire or other structure. The regional notification centers include, but are not limited to, the following:

Notification Center	Telephone Number
Underground Service Alert-Northern California (USA)	1-800-642-2444 1-800-227-2600

Potholes shall be sawcut round with a maximum size of twelve (12) inches in diameter unless otherwise directed by the Engineer

The design documents prepared by Contractor shall show the located paint marks. It is the Contractors responsibility to locate all existing facilities.

If the locate paint marks have improperly designated the location of a facility, and the facility is exposed during potholing, the facility owner and the Engineer shall be notified. The entity that exposed the facility shall document the horizontal and vertical location of the facility and communicate the information to the facility owner. If a utility cannot be located through potholing used in conjunction with locate marks, the facility owner and the Engineer shall be contacted.

Conditions requiring potholing:

1. Open-Cut Excavations: Potholing shall be completed to expose existing utilities, including mains and service lines, when open cut excavations are within tolerance zone of the marked utility. The tolerance zone, also known as the "approximate location", is a strip of land equal to the width of the underground utility plus twenty-four (24) inches on each side.
2. Trenchless Installation Methods: For trenchless operations with a bore path that parallels a utility (mains and service lines) within three (3) feet, potholing shall be completed at the beginning and the end of each bore and every fifty (50) feet along the route. For trenchless operations with a bore path that parallels a utility (mains and service lines) within five (5) feet, potholing shall be required at the beginning and end of the bore and every two hundred (200) feet along the route. Potholing shall be completed for all utilities, mains, and service lines) crossing the path of trenchless operations.
3. Congested Utilities: In congested areas having several facilities in close proximity and/or are crossing each other, locations have greater potential to be less accurate. Potholing shall be utilized for excavations near congested utility areas.

Facilities exposed during potholing shall be protected throughout the project. Utilities that are rendered unsupported due to potholing shall be temporarily supported by shoring or other means. The utility shall be protected from heavy and sharp items falling into the excavation that could damage or cut the facility.

Potholes shall be restored by the end of the work day after the utility has been located, or as otherwise directed by the Engineer. Potholes shall be backfilled with a slurry cement backfill conforming to Section 19-3.062, "Slurry Cement Backfill," of the Standard Specifications, unless otherwise directed by the Engineer. All potholes located in asphalt concrete shall have the edges tack oiled and permanently paved to match the existing asphalt concrete thickness (minimum 4"). Attention is directed to the section titled, "Paint Binder (Tack Coat)," and "Asphalt Concrete," of these Special Provisions. The repair of potholes in concrete driveways and sidewalks shall require the removal and replacement of the concrete to score lines unless otherwise approved by the City. Attention is directed to the section titled, "Miscellaneous Concrete Construction," of these Special Provisions.

10-2.06 HOT MIX ASPHALT (HMA)

GENERAL

Attention is directed to "Maintaining Traffic", "Construction Staking" and "Hot Mix Asphalt Concrete Plug" of these Special Provisions.

Work to be performed under this Section covers all labor, materials, tools, equipment, transportation, and incidentals necessary to construct HMA including "1" Type A 3/8" HMA Leveling Course", "2" Type A ½" HMA Overlay", "2" HMA Dike (Type E)", "4" HMA Dike (Type E)", "3" Type A ½" HMA Plug", "4" Type A ½" HMA Plug" and "6" Type A ½" HMA Plug".

All HMA materials and workmanship as described in this section shall conform to the State of California, Department of Transportation (Caltrans), Standard Specifications Section 39, 92 and 94 dated June

2010; these Special Provisions; and the plans and typical sections. The June 2010 Caltrans Standard Specifications are available on the Caltrans Website.

MATERIALS

Mix Types

The materials production for both 3/8" and 1/2" HMA shall be per the Standard Construction Process of the Standard Specifications.

The HMA must be 1/2 inch Type A HMA for the overlay and asphalt concrete plugs. The HMA shall be 3/8 inch Type A HMA for the leveling course and dikes. In addition to the Aggregate Quality requirements indicated in the table in Section 39-1.02E Aggregate, the Durability Index for all HMA aggregates shall be a minimum of 35. The aggregate shall not be treated with lime, cement or other chemical material before the Durability Index test is performed.

Binder Type

For dikes, asphalt binder to be mixed with aggregate shall be grade PG 70-10. For all other asphalt items, asphalt binder to be mixed with aggregate shall be grade PG 64-16.

The Contractor shall submit mix designs for all asphalt concrete to be used on the project.

Tack Coat

Tack coat must be utilized and will be emulsified asphalt Grade RS-1, RS-1h, SS-1, or SS-1h and shall conform to Section 94, 'Asphaltic Emulsions', of the Standard Specifications.

Contractor-Supplied Job Mix Formula (JMF)

You must supply JMF information on Forms CEM 3511, 3512 and 3513. If the mix has not been verified, the Contractor shall pay for the cost of the Engineer to perform verification testing.

Delivery Tickets

Each delivery ticket shall include information on the material type, binder type, oil content, and the mix design number. Material delivered to the project without such annotations shall be subject to rejection. Only original delivery tickets (no photocopies) shall be delivered to the Engineer on a daily basis.

CONSTRUCTION

General

The 3/8" HMA leveling course must be placed using the Method Construction Process.

The 1/2" HMA overlay course must be placed using the Standard Construction Process.

Surface Preparation

The work must consist of preparing the existing street surfaces prior to the commencement of paving. Such work shall include removing raised pavement markers, removing thermoplastic and painted traffic markings and legends, controlling nuisance water, sweeping, watering, and removing loose and broken asphalt concrete pavement and foreign material as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer. The removal of existing markers, striping and pavement markings shall conform to the sections titled "Removal of Pavement Markers" and "Removal of Traffic Stripes and Pavement Markings" of these special provisions.

Prime Coat

No prime coat is required.

Tack Coat

Tack coat must be applied to all existing asphalt concrete or Portland cement concrete surface to be paved over. The tack coat must conform to the requirements in Section 39 of the Standard Specifications. A heavy tack coat in the range of 0.04 to 0.07 gal/sy residual asphalt must be installed over the existing asphalt pavement horizontal surface prior to installing the leveling course. All vertical

edges to be paved against must be tack coated. These include, but are not limited to, gutter lips, gutter edges, and HMA edges.

Cold Joints

All cold joints, both longitudinal and transverse, must be heated with a torch immediately prior to paving. Cold joints include previously installed asphalt passes that are more than three hours old. All cold joints shall be tack coated.

Daily Paving Completion

You must schedule his paving operations such that each layer of HMA is placed across the entire roadway at the end of each work shift. At the end of each work shift, the distance between the ends of the layers of asphalt concrete on adjacent lanes must not be greater than 10 feet nor less than 5 feet. Additional asphalt concrete shall be placed along the transverse edge at the end of each lane and along the exposed longitudinal edges between adjacent lanes, hand raked, and compacted to form temporary conforms. Kraft paper, or other approved bond breaker, may be placed under the conform tapers to facilitate the removal of the taper when paving operations resume.

Layout

You must layout and mark the location of the edges of the paving passes of the surface course to match the layout of the lane lines. The layout must be made at least 24 hours prior to paving. The layout must be approved by the Engineer prior to paving. If the striping is to remain unchanged, the edges of the paving passes must conform to existing lane edges.

In all cases where practical, each vehicle lane shall be paved in a single pass. In tapered transition areas, the shoulder areas shall be paved first, then the through lane shall be hotlapped immediately after the shoulder paving.

For paving which incorporates new quarterpoints or gradebreaks due to keycuts or other conditions, the contractor shall provide equipment capable of adjusting to the new surface profile at the appropriate locations. The profile adjustments (grade break as screed) shall be within twelve inches of the actual quarterpoint or gradebreak.

You must take sufficient measurements during laydown to assure that the full design asphalt concrete layer depth is provided at each quarterpoint, gradebreak, and transition. Failure to provide the design depth at these areas will result in rejection of the work. Correction of this rejected work will include milling out the new asphalt concrete from the road edge to the centerline or nearest inside lane line and repaving. The minimum length of the milled and corrected area must be fifty feet.

Tolerances

The finished asphalt concrete surface must be 1/4 inch (0.02 feet or 6 mm) above, the gutter lips. The finished pavement surface must not be lower than the gutter lips.

The average pavement thickness shall be equal to the specified thickness for the project. For total pavement thicknesses of less than four inches, the minimum allowable thickness will be 1/4 inch less than that specified. For total pavement thicknesses of four inches or more, the minimum allowable thickness will be 1/2 inch less than that specified.

The contractor is responsible for verifying the anticipated tonnage for each street segment using the data from the JMFs for the mix to be used at least 10 days prior to paving. If the anticipated quantity varies more than +/-5% from that indicated in the bid schedule, the Contractor shall notify the Engineer in writing of the discrepancy and provide computations regarding tonnage. When determining quantities, the Contractor's attention is directed to those locations on the plans where the HMA overlay is thickened at the east edge and varies in depth as required to form drainage swales that direct stormwater runoff across driveways and toward the varies existing drop inlets.

Rolling and Compaction

Field density acceptance testing shall be accomplished using the nuclear gauge except as noted otherwise in these Special Provisions.

Temperature conditions for surface and atmospheric conditions as well as temperatures for rolling for unmodified binders indicated in Section 39-3.04 shall apply to the work.

Breakdown rolling shall commence when the asphalt concrete is placed. Rolling shall be accomplished with the drive wheel forward and with the advance and return passes in the same line.

In lieu of the core testing indicated in the specifications referenced above, the following shall apply:

> The compaction shall be computed for each lot, with a maximum lot size of 500 tons. Each street segment of less than 500 tons shall be its own unique lot. Core density/nuclear gauge shall be done per CTM 375, 'Determining the In-Place Density and Relative Compaction of Asphalt Concrete Pavement'. The average asphalt concrete density of each lot shall be between 92.0% and 96.0% of Maximum Theoretical Density. Individual test sites shall be between 91.0% and 97.0% of Maximum Theoretical Density. Core/nuclear densities shall be taken at a rate of no fewer than one per 50 tons of mix. If compaction fails by nuclear methods, then core density/nuclear gauge correlation and/or core densities shall be used to establish compaction.

If requested by the Contractor to verify nuclear densities by coring, the contractor shall perform the coring at no cost to the Engineer. The Engineer will randomly locate core locations and test cores for density at no cost to the Contractor. Coring will be performed on a lot by lot basis as requested by the Contractor. The Contractor shall backfill the core holes with HMA temperatures above 250°F. The HMA shall be firmly tamped in place in lifts not to exceed 3 inches. Tamping shall consist of a minimum of 20 blows with a ten pound minimum weight bar with an approximate 2 inch diameter head or by a suitable head attached to a demolition hammer or pneumatic hammer. The finished surface shall be flush with the adjacent pavement surface.

Compaction failing to meet the above criteria shall be subject to the payment reductions indicated in Section 39-2.03, "Reduced Payment Factors for percent of Maximum Theoretical Density and the payment shall apply to each 500 ton lot: The deductions shall be based on the average of the lot and/or reductions for individual test locations

The table for deductions indicated in the referenced Caltrans Section 39-2.03A "Testing" shall apply to individual cores. The following table shall apply to deductions for average compaction of a lot:

Reduced Payment Factors for Percent of Maximum Theoretical Density

HMA Type A Percent of Maximum Theoretical Density	Reduced Payment Factor	HMA Type Percent of Maximum Theoretical Density	Reduced Payment Factor
92.0	0.0000	96.0	0.0000
91.9	0.0125	96.1	0.0125
91.8	0.0250	96.2	0.0250
91.7	0.0375	96.3	0.0375
91.6	0.0500	96.4	0.0500
91.5	0.0625	96.5	0.0625
91.4	0.0750	96.6	0.0750
91.3	0.0875	96.7	0.0875
91.2	0.1000	96.8	0.1000
91.1	0.1125	96.9	0.1125

91.0	0.1250	97.0	0.1250
90.9	0.1375	97.1	0.1375
90.8	0.1500	97.2	0.1500
90.7	0.1625	97.3	0.1625
90.6	0.1750	97.4	0.1750
90.5	0.1875	97.5	0.1875
90.4	0.2000	97.6	0.2000
90.3	0.2125	97.7	0.2125
90.2	0.2250	97.8	0.2250
90.1	0.2375	97.9	0.2375
90.0	0.2500	98.0	0.2500
< 90.0	Remove and Replace	> 98.0	Remove and Replace

The Contractor shall have hand-compaction equipment immediately available for compacting all areas inaccessible to rollers. Hand-compaction shall be performed concurrently with breakdown rolling. If for any reason hand-compaction falls behind breakdown rolling, further placement of asphalt concrete shall be suspended until hand-compaction is caught up. Hand-compaction includes vibraplates and hand tampers. Hand torches shall be available for rework of areas which have cooled.

After compaction, the surface texture of all hand work areas shall match the surface texture of the machine placed mat. Any course or segregated areas shall be corrected immediately upon discovery. Failure to immediately address these areas shall cause suspension of asphalt concrete placement until the areas are satisfactorily addressed, unless otherwise allowed by the Engineer.

Smoothness

The HMA placed on the leveling course shall conform to the requirements of Section 39-1.12 with the exception that the PI_0 requirements shall not apply. However, the final profilograph data shall be submitted to the Engineer. Must grinds will be determined by the profilograph on the vehicle travel lanes of the roadway and be straightedge for shoulders and all pavement conforms on side streets. The straightedge requirement does not apply where there is a designated gradebreak due to cold planing.

10-2.07 PAINT BINDER (TACK COAT)

The Contractor shall furnish all labor, materials, tools, equipment and incidentals necessary for the application of paint binder (tack coat) in accordance with the plans, the Standard Specifications and these Special Provisions. Unless otherwise revised by these Special Provisions, work associated with paint binder (tack coat) shall conform to the provisions in Section 39-4.02, “Prime Coat and Paint Binder (Tack Coat)”, of the Standard Specifications and these Special Provisions.

Certificates of compliance from manufacturer stating the materials comply with the requirements of this section shall be submitted for approval in accordance with the section titled “Submittals” elsewhere in these Special Provisions.

Prior to placement of the binder, the Contractor shall mechanically broom or vacuum the street surface to completely clean the surface of debris.

Paint binder (tack coat) shall be, at the option of the Contractor, either slow-setting asphaltic emulsion, rapid-setting asphaltic emulsion or paving asphalt. Paint binder (tack coat) shall be applied in one application at a rate shown in the table below and as determined by the Engineer. When asphaltic emulsion is used as paint binder (tack coat), asphalt concrete shall not be placed nor shall construction

traffic be allowed on the binder until the applied asphaltic emulsion has completely changed color from brown to black. Before placing asphalt concrete, paint binder (tack coat) shall be applied to all surfaces of existing pavement (AC and PCC) and to vertical surfaces of curbs, gutters, conforms, and construction joints. Paint binder (tack coat) shall be applied in one application and shall be place no more than 6 hours before the surfacing operations.

Unless directed otherwise by the Engineer, application rates shall be as follows:

TACK COAT APPLICATION RATES			
ASPHALT CONCRETE OVERLAY (EXCEPT OPEN GRADED) GALLONS / SQUARE YARD			
TYPE OF SURFACE TO BE TACK COATED	SLOW-SETTING ASPHALTIC EMULSION	RAPID-SETTING ASPHALT EMULSION	PAVING ASPHALT
DENSE, TIGHT SURFACE (E.G. BETWEEN LIFTS)	0.04 - 0.08 (A)	0.02 - 0.04 (B)	0.01 - 0.02
OPEN TEXTURED OR DRY, AGED SURFACE (E.G. MILLED SURFACE)	0.08 - 0.20 (A)	0.04 - 0.09 (B)	0.02 - 0.06
OPEN - GRADED ASPHALT CONCRETE OVERLAY			
TYPE OF SURFACE TO BE TACK COATED	SLOW-SETTING ASPHALTIC EMULSION	RAPID-SETTING ASPHALT EMULSION	PAVING ASPHALT
DENSE, TIGHT SURFACE (E.G. BETWEEN LIFTS)	0.06 - 0.11 (A)	0.02 - 0.06 (B)	0.01 - 0.03
OPEN TEXTURED OR DRY, AGED SURFACE (E.G. MILLED SURFACE)	0.11 - 0.24 (A)	0.06 - 0.12 (B)	0.03 - 0.07
(A) ASPHALT EMULSION DILUTED WITH ADDITIONAL WATER. THE WATER MUST BE ADDED AND MIXED WITH THE ASPHALT EMULSION (WHICH CONTAINS UP TO 43 PERCENT WATER) SO THAT THE RESULTING MIXTURE WILL CONTAIN ONE PART ASPHALT EMULSION AND NOT MORE THAN ONE PART WATER. THE WATER MUST BE ADDED BY THE EMULSION PRODUCER OR AT A FACILITY THAT HAS THE CAPABILITY TO MIX OR AGITATE THE COMBINED BLEND. (B) UNDILUTED ASPHALT EMULSION.			

Once the paving operation has commenced all asphalt concrete seams shall receive an application of paint binder if the newly applied asphalt concrete surface is allowed to cool below 150 F. The Contractor must take care to ensure that the vertical edges are adequately tack coated to secure satisfactory bonding along the edges.

The area to which paint binder has been applied shall be closed to public traffic. Care shall be taken to avoid tracking binder material onto existing pavement surfaces beyond the limits of construction. A sand cover may be required in certain areas of this project if the asphaltic emulsion fails to penetrate the surface before paving and the cost thereof shall be included in the contract prices for the various items of work, and no additional compensation will be allowed therefore.

All areas proposed for paving shall be checked by the City a minimum of 24 hours prior to the scheduled paving operation. It shall be the Contractor's responsibility to notify the City such that appropriate inspections are provided.

10-2.08 ASPHALT CONCRETE

Attention is directed to Section 39, "Asphalt Concrete," and Section 92, "Asphalts," of the Standard Specifications. Attention is directed to the sections titled "Paint Binder (Tack Coat)", "Maintaining Traffic" and "Construction Staking" of these Special Provisions.

The following information shall be submitted for approval in accordance with the section titled “Submittals” elsewhere in these Special Provisions.

- Asphalt Concrete Mix Design including gradation and properties of aggregates for each mix proposed to be used.
- Certificate of Compliance for liquid asphalt from manufacturers stating material used complies with the requirements of this section.

Asphalt binder to be mixed with aggregate shall be grade PG 64-16. The Contractor shall submit mix designs for all asphalt concrete to be used on the project. The amount of asphalt binder to be mixed with the aggregate shall be between four (4) percent and six (6) percent by weight of dry aggregate. The exact amount of asphalt binder to be mixed with the aggregate will be determined by the mix design.

The Contractor must grind/plane, place the asphalt concrete plugs (if necessary), and asphalt concrete base course within the same working day, unless otherwise directed by the Engineer. Attention is directed to the section titled, “Maintaining Traffic” of these Special Provisions.

Asphalt concrete shall Type A, ½" maximum, medium for street applications to a depth as shown on the plans.

For all streets, asphalt concrete shall be spread and compacted in conformance with Section 39-6, “Spreading and Compacting,” of the Standard Specifications, these Special Provisions, as shown on the plans, and as directed by the Engineer. Asphalt concrete shall not be placed adjacent to new concrete construction until said new concrete has cured for at least seven (7) calendar days.

The existing street centerline grade shall be maintained for the resurfacing operations as shown on the plans. The Contractor shall be responsible to establish the existing street centerline grade by survey before the street is planed. The minimum cross slope shall be two (2) percent. Attention is directed to the section titled “Construction Staking” of these Special Provisions.

Longitudinal asphalt concrete seams in the wearing course shall correspond with the edge of travel lanes and street centerline. Longitudinal seams in underlying courses shall be offset not less than 1-foot from the wearing course. Before asphalt concrete paving operations, the alignment of longitudinal asphalt concrete seams shall be approved by the Engineer.

Asphalt concrete shall be compacted and finished in conformance with said Section 39, amended as follows:

Section 39-5.02, “Compacting Equipment,” of the Standard Specifications is amended to read:

“With consideration for the typical weather experienced at the anticipated time of resurfacing, the Contractor shall furnish a sufficient number of rollers to obtain the specified compaction and surface finish required by these Special Provisions.

All rollers shall be equipped with pads and water systems which prevent sticking of asphalt mixtures to the pneumatic or steel-tired wheels. A parting agent, which will not damage the asphalt mixture, as determined by the Engineer, may be used to aid in preventing the sticking of the mixture to the wheels.” Diesel fuel shall not be considered an acceptable parting agent.

The fifth paragraph of Section 39-6.03, “Compacting,” of the Standard Specifications is amended to read:

“All asphalt concrete and asphalt concrete base shall be compacted as follows:

Initial compaction shall consist of three (3) coverages of a layer of asphalt mixture and shall be performed with a 2-axle tandem steel-tired roller weighing not less than twelve (12) tons. Where the thickness of the layer of asphalt mixture is less than 0.15-foot, less than three (3) coverages may be ordered by the Engineer if necessary to prevent damage to the layer being compacted.

The breakdown compaction shall be followed immediately by additional rolling consisting of three (3) coverages with a pneumatic-tired roller. Coverages with a pneumatic-tired roller shall start when the

temperature of the mixture is as high as practicable, preferably above 180 F, and shall be completed while the temperature of the mixture is at or above 150 F.

Each layer of asphalt concrete shall be compacted additionally without delay by a final rolling consisting of not less than one coverage with a steel-tired roller weighing not less than 8 tons. Except as otherwise provided for low rates of production, a separate finish roller will be required."

Additionally, Section 39-6.03, "Compacting," of the Standard Specifications is amended by deleting the seventh through tenth paragraphs and adding the following before the eleventh paragraph:

"Asphalt concrete shall be compacted to a relative compaction of not less than 95 percent and shall be finished to the lines, grades, and cross section shown on the plans. In-place density of asphalt concrete and asphalt concrete base will be determined prior to opening the pavement to public traffic.

Relative compaction will be determined by California Test 375. Laboratory specimens will be compacted in conformance with California Test 304. Lots will be established for asphalt concrete and asphalt concrete base areas to be tested, as specified in California Test 375."

Final verification of compaction shall be determined by the engineer by means of coring the new asphalt concrete section and confirming the compaction though lab testing.

All core locations shall be backfilled by the Contractor with quick set concrete and capped with two (2) inches of 3/8 inch asphalt concrete.

Should the methods and equipment furnished by the Contractor fail to produce a layer of asphalt concrete conforming to the requirements, including straightedge tolerance, of Section 39-6.03, "Compacting", of the Standard Specifications, the paving operations shall be discontinued and the Contractor shall modify his equipment or furnish substitute equipment.

The asphalt concrete shall be placed on the roadway only after:

1. The existing pavement surface has been dry, free of moisture, for a period of ten (10) consecutive calendar days.
2. The air temperature is 50 F and rising, or above 60 F when using windrows and pickup paving machines.
3. The Contractor has removed all thermoplastic markings and raised pavement markers from the area to be paved.
4. If required elsewhere in these Special Provisions, the Contractor has ground, crack sealed, patched and seal coated the roadway.
5. Subgrade has been proof-rolled in the presence of the Engineer.

Before the placement of the asphalt wearing course the Contractor shall provide the Engineer with survey documentation that details the grade of the asphalt concrete base course as specified in these Special Provisions.

After compaction, the asphalt at the PCC gutter shall be a ¼" above the lip of gutter grade, see detail titled "Standard Curb and Gutter Removal and Replacement" on the plans.

Asphalt concrete shall be placed along the transverse edge at the end of each lane hand raked and compacted to form temporary conforms. Kraft paper, or other approved bond breaker, may be placed under the conform tapers to facilitate the removal of the taper when paving operations resume.

Half-width surfacing operations shall be conducted in such manner that, at the end of each day's work, the distance between the ends of adjacent surfaced lanes shall not be greater than can be completed in the following day of normal surfacing operations.

10-2.09 ASPHALT CONCRETE PLUG

Asphalt concrete plug areas to be repaired shall be excavated to a depth of six (6) inches below the planned asphalt concrete surface as shown on the plans and as directed by the Engineer. The asphalt concrete section shall be replaced to the bottom of the planned asphalt concrete surface with Type A, ¾" maximum coarse grade asphalt concrete.

The Engineer, accompanied by the Contractor, shall mark the exact limits and record the dimensions of asphalt concrete plugging to be removed and replaced. Unless otherwise authorized by the Engineer, any additional area removed and replaced beyond the limits as marked shall not be measured nor paid for. The Contractor and Engineer shall agree on the limits and area prior to the start of the removal. Once the work is completed, the Contractor shall provide the City with the final quantity of removal.

The Contractor shall be aware that the limits of the removal are various in width and length and may or may not be consistent with the width of the grinder. The City will not be responsible for Contractor error in removing material beyond the limits of the areas as marked in the field. All extra road sections removed beyond the limits marked are at the expense of the Contractor.

The outline of the asphalt concrete to be removed shall be cut to a neat, straight, clean vertical edge with square corners using a power-driven saw and removing the surfacing for a minimum depth of two (2) inches. If a grinder is used to excavate the asphalt concrete plug areas, the vertical edges perpendicular to the flow of traffic shall be prepared to a smooth vertical edge, full depth, after completion of excavation.

Surfacing and base shall be removed without damage to surfacing that is to remain in place. Damage to or removal of surfacing which is to remain in place shall be repaired/replaced in accordance with the requirements of this Section. Surfacing and base material removed for the Contractor's convenience shall be at the Contractor's expense and will not be measured nor paid for.

Removed materials shall be disposed of outside the highway right of way in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

After removing the surfacing and base to the required uniform depth, the undisturbed material at the base of the excavation shall be compacted. Compaction shall consist of three passes on the subgrade material using the same compaction equipment that will be used for the placement of asphalt concrete plug material, or an alternative method approved by the Engineer. The subgrade material must be proof-rolled in the presence of and approved by the Engineer prior to the placement of any asphalt concrete. If the subgrade material, in the opinion of the Engineer, is unsuitable the Engineer may direct the Contractor to remediate the subgrade. Areas of base material which are low as a result of over excavation not ordered by the Engineer shall be filled, at the Contractor's expense, with asphalt concrete conforming to the section titled "Asphalt Concrete," of these Special Provisions.

After approval of the subgrade material by the Engineer, the Contractor shall prime horizontal and vertical surfaces with paint binder. Paint binder shall be applied to all horizontal and vertical edges of the repair area in accordance with the section titled, "Paint Binder (Tack Coat)," of these Special Provisions.

Lift thicknesses of asphalt concrete shall conform to the Section 39-6.01 of the Standard Specifications, unless otherwise specified by the Engineer.

All debris generated from this activity shall be hauled off-site at the end of each work day.

10-2.10 AGGREGATE BASE

Aggregate base shall be Class 2, three quarter inch (¾") maximum grading and shall conform to the provisions in Section 26, "Aggregate Bases," and the section titled "Miscellaneous Concrete" and "PCC Curb Ramp" of the Standard Specifications and these Special Provisions. Recycled material, if used, shall also be Class 2, three quarter inch (¾") maximum grading and shall include a minimum of 30% virgin aggregates.

The Contractor shall place aggregate base to the dimensions shown on the plans. All subgrade and aggregate base placed shall be compacted to a minimum relative compaction of ninety-five percent (95%).

The engineer will provide ongoing laboratory testing on aggregate base samples at the plant of origin and in the field. If the material is found to be out of compliance with the Standard Specifications and these Special Provisions, the engineer will immediately notify the contractor and may stop the work in accordance with Section 8-1.05, “Temporary Suspension of Work” of the Standard Specifications and these Special Provisions. The contractor shall provide the Engineer a five (5) working day notice in writing of any production of aggregate base material used on this project including the specific dates of aggregate base production.

If accepted subgrade becomes saturated and/or disturbed or more than five (5) working days pass between acceptance of the material and placement of the upper layer, the subgrade must again be proof-rolled and retesting will be required. The cost of the retesting shall be borne by the Contractor.

10-2.11 MISCELLANEOUS CONCRETE CONSTRUCTION

All sidewalk, curb and gutter, curb ramps, cross gutters, and driveways shall conform to the provisions in Section 73, "Concrete Curbs and Sidewalks," Section 90, “Concrete”, and the section titled, “PCC Curb Ramp,” of the Standard Specifications and these Special Provisions.

The second paragraph of Section 73-1.01 “Description” of the Standard Specifications is amended to read:

This work shall be constructed of minor concrete conforming to the provisions in Section 90-10, "Minor Concrete," except as follows:

1. The maximum size of aggregate used for extruded or slip-formed curb construction shall be at the option of the Contractor, but in no case shall the maximum size be larger than one inch nor smaller than 3/8 inch.

2. The cement content of the minor concrete shall be not less than 564 pounds per cubic yard.

Primary aggregate nominal size shall be of 1” x No.4 coarse aggregate gradation per Section 90-3.02, “Coarse Aggregate Grading,” of the Standard Specifications.

Lampblack shall be added to the Portland Cement Concrete at the rate of one (1) pound lampblack per cubic yard of concrete. All concrete installation shall take place within three (3) calendar days of its removal.

If within the areas of improvements the Contractor locates AT&T, PG&E, and/or Comcast utility boxes, the Contractor will not be responsible for setting said utility boxes to grade. However, the Contractor shall be responsible for coordinating with AT&T, PG&E, and/or Comcast for the adjustment of the facilities prior to installing new concrete and asphalt concrete. The Contractor shall provide written notice of the Contractor’s schedule and coordinate concrete removal activities with the affected utility companies at least fourteen (14) calendar days’ in advance of any concrete demolition work adjacent to the utility facilities. Should the Contractor’s schedule change, the Contractor shall re-notify the utility company in writing at least fourteen (14) calendar days’ in advance of any subsequent concrete demolition work. The Contractor shall allow the affected utility company unimpeded access to their facilities for all adjustment work.

Utility identification symbols, typically “S” for sanitary sewer and/or “W” for water, may exist on some curbs that require replacement. The Contractor shall reference mark these symbols prior to removal of the curb and gutter, and stamp a new symbol at the location of the original symbol or the where the utility line has been identified. New symbol shall be stamped where the underlying utilities are identified, 1/8” minimum depth, into the curing P.C.C., of a plain font that is easily read with a letter height of approximately 3” placed on top and face of curb.

All curb and gutters shall be flow tested with water prior to finishing the concrete to eliminate low areas and to maintain positive drainage. Gutters shall be placed with a uniform cross slope unless otherwise

shown on the Project Details or as directed by the Engineer. Any curb and gutter that retains water and does not drain positively shall be removed and replaced at the Contractor's expense.

Contractor shall be responsible for guarding or otherwise protecting concrete work from vandalism or other damage. All such etchings, graffiti or other damage to newly placed concrete shall be removed and replaced by the Contractor at the Contractor's own expense.

Constructing new PCC Curb and 12" Gutter, PCC Sidewalk 4", PCC Driveway 6", PCC Cross Gutter, and PCC Curb Ramp in areas where existing PCC is to be removed or there is no existing PCC, shall include any necessary excavation and backfill, furnishing and installing aggregate base, reinforcement, expansion joint filler, and all other required materials, including water.

If the Contractor elects to use the curing compound method for curing concrete improvements as described in this Section the curing compound shall be curing compound shall be non-pigmented, clear in color, conforming to the provisions in Section 90-7.01B, "Curing Compound Method," of the Standard Specifications. The curing compound shall be applied in the presence of the Engineer and in a manner that will provide a complete coating of all exposed faces of the concrete surface.

All minor concrete improvements shall be finished to a uniform light broom finish or as otherwise directed by the Engineer. All score lines, deep joint lines and expansion joints shall be neat and clean and tooled to a ¼ inch radius. All edges of the exposed concrete surface shall be finished and tooled to a ¼ inch radius.

10-2.12 SIDEWALK PLANING

Existing concrete sidewalk shall be planed by means of sawcutting the concrete horizontally. Once cut, the sidewalk surface shall have a relatively smooth uniform appearance and texture. Grinding or pulverization of the concrete sidewalk will not be allowed. All concrete to be sawcut in accordance with the requirements of the Americans with Disabilities Act. Concrete shall be cut only in areas where the sidewalk has a deformation of 1½" or less. Areas to be cut shall be identified by the Engineer.

All sawcutting work shall be done with hand-held equipment capable of cutting at any angle, and capable of removing the concrete completely to all edges, even when a wall may be present. All sawcutting shall be taken to the zero point of differential settlement at the adjacent opposing side, and to both edges of the concrete sidewalk to eliminate the deformation over the full width of the sidewalk.

Concrete removed shall be disposed of outside the highway right of way in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications. Said material shall be hauled off-site by the end of each workday. Additionally, any concrete dust shall be cleaned from the sidewalk surface as well as surrounding sidewalks, driveways, landscaping, and/or other objects in the vicinity of work.

10-3 LANDSCAPE AND IRRIGATION

10-3.01 TREE REMOVAL

Attention is directed to the sections titled "Clearing, Grubbing, and Landscape Restoration," and "Concrete Removal" of these Special Provisions, Section 4 "Landscaping Standards" of the City Standard Plans, and the Standard Specifications.

Tree removal shall be defined as the removal of the entire tree, including:

1. Stump removal to a minimum of twenty-four (24) inches below the new curb and sidewalk grade. All stumps and roots that cannot be reached by mechanical means in excess of twenty-four (24) inches shall be treated with a systemic herbicide specifically identified for woody plant material or stump treatment. The Contractor shall apply systemic herbicide per the directions on the manufacture's label and per the Napa County Agricultural requirements.
2. Root removal, shall include those which interfere with the installation of the new curb, gutter, driveways, and sidewalks. In addition to all roots that may be wrapped around possible utility lines.
3. Removal of "surface" roots within the planter strip to a minimum depth of twelve (12) inches below the new curb and sidewalk grade. Said removal is only within the tree drip line, unless existing homeowner improvements conflict with the work. The Contractor shall mark the edge of the tree drip line as a reference for the required removal limits.

All the above listed work shall be done prior to the installation of any concrete work. The Contractor shall take all safety precautions while stump removal procedures are in operation. Guards shall be in place to protect vehicles, homes, pedestrians, and employees during the removal process. Existing landscaping improvements shall be protected by means of tarps or approved equivalent during the stump removal operations.

All tree removal shall conform to the requirements of American National Standards Institute's Standard for Tree Care Operations (ANSI Z133.1-2006 and ANSI A300-Part 1 -2001). Contractor shall determine the depth of any underground utility within the area of the tree removal prior to digging or stump grinding. Gas lines and other utilities may vary in depth. Attention is directed to the section titled "Obstructions" of these Special Provisions,

All tree removal shall be done by a qualified tree service contractor with a valid C-61 Limited Specialty (D-49 Tree Service) license approved by the State Contractors License Board. The Contractor shall provide proof of being licensed accordingly prior to performing any tree removal work. Work performed in the vicinity of power lines shall be performed by personnel qualified to perform work in proximity of electrical hazards in accordance with ANSI Z133.1.

The trees to be removed are classified by size, as specified in the Bid Schedule and in the plans. The classification sizes are measured by DBH (Diameter at Breast Height) the tree trunk diameters measured at approximately 4.5 feet above existing grade. By submitting a proposal, the Contractor represents that he has visited the site of the work and has confirmed the conditions to be encountered.

All trees scheduled for removal shall be marked only by the City of Napa Parks and Recreation Services Department or the Engineer.

In areas where trees are scheduled for removal, the Contractor shall remove all concrete prior to any tree and root removal operations. The Contractor shall contact the Engineer a minimum of twenty-four (24) hours prior to concrete removal at said sites for evaluation of the exposed tree roots. The Contractor shall not perform any additional earthwork operations at the site until there has been approval to proceed by the Engineer.

All tree, roots, and chip material created by the tree removal process shall be hauled off-site at the end of each work day. Holes created by the removal of the tree shall be backfilled to grade with soil backfill. Additionally, the Contractor shall place topsoil 1" – 2" below the new curb and sidewalk grade within the project limits unless otherwise directed by the Engineer. Attention is directed to the section titled "Finishing Work" of these Special Provisions.

10-3.02 TREE PLANTING

Tree Planting shall conform to the provisions in Section 20, "Landscape" of the Standard Specifications, Section 4 "Landscaping Standards" of the City Standard Plans, and these Special Provisions. Proposed new tree planting locations will be directed by the City of Napa Parks and Recreation Services Department or the Engineer prior to any replanting operations.

All tree plantings shall be done by a qualified landscape contractor with a valid C-27 license or a tree service contractor with a valid C-61 Limited Specialty (D-49 Tree Service) license. All licenses shall be approved by the State Contractors License Board. All new trees to be planted must conform to the American Standard for Nursery Stock (ANSI Z60.0-1990), City of Napa Nursery Standards. All trees shall be inspected by the City prior to planting. A forty-eight (48) hour minimum notice is required for all tree acceptance. Any trees that are brought into Napa County will require an additional inspection performed by the County Agricultural Commissioner's Office biologist. The Contractor shall contact the County Agricultural office at 707-253-4357 to make this appointment. The City shall reject all trees not meeting the standards mentioned above.

Attention is directed to Section 10-1.05, "Obstructions", of these Special Provisions. Utilities may be located within the public right of way. The Contractor will in some cases find it necessary to manually hand dig the planting hole to assure the proper planting depth is provided for new trees.

Soil in all planting areas shall be cultivated to a depth of eight (8) inches below finish grade. Water shall be added and cultivating shall be continued until the entire eight (8) inch depth is loose and friable. All debris, concrete and rocks shall be removed to the eight (8) inch depth and shall be disposed off-site by the Contractor. No rocks or debris over two (2) inches will be allowed to remain.

Root barriers shall be installed when planting new trees in planting strip. A root barrier shall be placed in the trench created alongside the new or existing sidewalk and along the curb. The barrier shall be a continuous length and shall extend from ½" above finished soil grade downwards to a minimum depth of eighteen (18) inches on the curbside and twelve (12) inches adjacent to the sidewalk. Root Barriers shall be the Deep Root Barrier panel LB 12-2 and UB 18-2, or approved equivalent. Refer to the manufacturer's specifications for all other applicable requirements. Root barriers shall be installed per City Standard Drawings T-5.

Contractor shall not plant a tree until the planting hole is inspected and approved by the City. Once planted, the Contractor shall contact the City of Napa Parks and Recreation Services Department for inspection to assure that it has been properly planted and adequately watered. Trees shall be planted per City Standard Drawings T-1 and T-2.

Tree Species to be planted are listed below and will vary depending on location and surroundings. The Engineer shall provide direction to the Contractor as to which species of tree will be planted at each listed location. Replacement trees sizes shall consist of a 15 gallon container tree not less than five (5) feet in height and ¾" in diameter and/or 24" box tree not less than eight (8) feet in height and 1-¾" in diameter. Where trees are identified to be planted, if a 12" or smaller DBH tree was removed than a 15 gallon container tree shall be planted. All other identified trees locations shall be planted with a 24" box tree, unless otherwise directed by the Engineer. The work site shall be left clean at the end of each work day. If planting pits are exposed the Contractor shall cover said pits with plywood and surround with barricades at the end of each work day or when work crews are not present.

Attention is directed to Section 20-4.08 "Plant Establishment Work" of the Standard Specifications. The Contractor shall be required to adequately water the new trees, replace unsuitable trees; do weed, rodent and other pest control; and perform other work as determined necessary by the Engineer, every working day until the Contractor has been notified that the project has been deemed complete.

SECTION 11 NOT USED

SECTION 12 NOT USED

SECTION 13 NOT USED

SECTION 14 FEDERAL REQUIREMENTS FOR FEDERAL-AID CONSTRUCTION PROJECTS

Attention is directed to Section 7-1.11, “Federal Laws and Federal-Aid Contracts,” and to Appendix B-4 of the Standard Specifications and these Special Provisions.

Contractor is required to conform to the requirements of 49 CFR 18 as outlined below:

Contract provisions. A grantee's and subgrantee's contracts must contain provisions in this section. Federal agencies are permitted to require changes, remedies, changed conditions, access and records retention, suspension of work, and other clauses approved by the Office of Federal Procurement Policy.

(1) Administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as may be appropriate. (Contracts more than the simplified acquisition threshold)

(2) Termination for cause and for convenience by the grantee or subgrantee including the manner by which it will be effected and the basis for settlement. (All contracts in excess of $10,000)

(3) Compliance with Executive Order 11246 of September 24, 1965, entitled ``Equal Employment Opportunity,'' as amended by Executive Order 11375 of October 13, 1967, and as supplemented in Department of Labor regulations (41 CFR chapter 60). (All construction contracts awarded in excess of $10,000 by grantees and their contractors or subgrantees)

(4) Compliance with the Copeland ``Anti-Kickback'' Act (18 U.S.C. 874) as supplemented in Department of Labor regulations (29 CFR part 3). (All contracts and subgrants for construction or repair)

(5) Compliance with the Davis-Bacon Act (40 U.S.C. 276a to 276a-7) as supplemented by Department of Labor regulations (29 CFR part 5). (Construction contracts in excess of $2000 awarded by grantees and subgrantees when required by Federal grant program legislation)

(6) Compliance with Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-330) as supplemented by Department of Labor regulations (29 CFR part 5). (Construction contracts awarded by grantees and subgrantees in excess of $2000, and in excess of $2500 for other contracts which involve the employment of mechanics or laborers)

(7) Notice of awarding agency requirements and regulations pertaining to reporting.

(8) Notice of awarding agency requirements and regulations pertaining to patent rights with respect to any discovery or invention which arises or is developed in the course of or under such contract.

(9) Awarding agency requirements and regulations pertaining to copyrights and rights in data.

(10) Access by the grantee, the subgrantee, the Federal grantor agency, the Comptroller General of the United States, or any of their duly authorized representatives to any books, documents, papers, and records of the contractor which are directly pertinent to that specific contract for the purpose of making audit, examination, excerpts, and transcriptions.

(11) Retention of all required records for three years after grantees or subgrantees make final payments and all other pending matters are closed.

(12) Compliance with all applicable standards, orders, or requirements issued under section 306 of the Clean Air Act (42 U.S.C. 1857(h)), section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR part 15). (Contracts, subcontracts, and subgrants of amounts in excess of $100,000)

(13) Mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub. L. 94-163, 89 Stat. 871).

Full compensation for conforming to the requirements of these Special Provisions and providing all labor, materials, tools, equipment and incidentals, and for doing all the work involved as described in these Special Provisions and the Standard Specifications, and as directed by the Engineer, shall be considered as included in the contract prices paid for the work and no additional compensation will be allowed therefor.

APPENDIX B-1

CITY OF NAPA
CALENDAR OF HOLIDAYS

2015

City of Napa

Recognized Holidays

January '15

Su	M	Tu	W	Th	F	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

February '15

Su	M	Tu	W	Th	F	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

March '15

Su	M	Tu	W	Th	F	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

April '15

Su	M	Tu	W	Th	F	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

May '15

Su	M	Tu	W	Th	F	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

June '15

Su	M	Tu	W	Th	F	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

July '15

Su	M	Tu	W	Th	F	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

August '15

Su	M	Tu	W	Th	F	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

September '15

Su	M	Tu	W	Th	F	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

October '15

Su	M	Tu	W	Th	F	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

November '15

Su	M	Tu	W	Th	F	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

December '15

Su	M	Tu	W	Th	F	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

01/01/15 - New Year's Day
01/19/15 - Martin Luther King Jr. Day
02/16/15 - Presidents Day
05/25/15 - Memorial Day
07/03/15 - Independence Day
09/07/15 - Labor Day
10/12/15 - Columbus Day
11/11/15 - Veterans Day
11/26/15 & 11/27/15 - Thanksgiving Holiday
12/24/15 & 12/25/15 - Christmas Holiday
12/28/15 & 12/29/15 - Closure Days

APPENDIX B-2

SAMPLE SUBMITTAL FORM

SAMPLE FORM

- SUBMITTAL -

(Contractor's Letterhead)

(Date)

City of Napa
P.O. Box 660
Napa, CA 94559-0660

Attention: Mark Tomko
Project: "[Click here and insert PROJET TITLE]"
Submittal No. (_____)

(allow space for City stamp)

The following is submitted for review:

Item Description	Manufacturer	Specification Section Reference	Drawing Sheet No.(s) Reference

I hereby certify that all material submitted has been checked for completeness, for correctness, and for compliance with the drawings and specifications, that field dimensions and conditions have been verified, and that exceptions, if any, are clearly noted.

_____

(Authorized Signature)

COMMENTS:_____

_____

APPENDIX B-3

FEDERAL MINIMUM WAGE RATES

Effective Date: February 20, 2015
General Decision Number: CA150009
Superseded General Decision Number: CA20140009

The applicable federal minimum wage rates can be found at the following Internet Website:

http://www.wdol.gov/dba.aspx#8

APPENDIX B-4

FEDERAL REQUIREMENTS FOR FEDERAL-AID CONSTRUCTION PROJECTS

FHWA-1273 -- Revised May 1, 2012

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH–1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
(2) the prime contractor remains responsible for the quality of the work of the leased employees;
(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

T h i s p r o v i s i o n i s applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

T h i s p r o v i s i o n i s applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1**. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

EXHIBIT C: Design-Build Required Deliverables and Performance

The scope of work includes the planning, design, and complete construction of the project components described within this agreement. The Contractor is to deliver the specified project components in compliance with applicable City, State and Federal design and construction standards and all applicable laws, permits, grant requirements, and professional standards and practices. The components are to be fully operational upon delivery to the City.

The Contractor will manage the performance of all tasks and deliver all services required to complete the specified components of this design-build project, including but not limited to:

1. site investigations/reconnaissance and survey
2. location of existing utilities and coordination with and approval by utilities (including City of Napa Public Works Water Division)
3. preparation of designs and work plans for the various project components for city review and final approval including:
    a. project management plan
    b. schedules for planning, design and construction
    c. construction phasing
    d. utility protection and relocation plan
    e. traffic control plan
    f. SWPPP plan
    g. geotechnical investigation and report
    h. clearing, grubbing, demo plan, and work area protection plan
    i. civil and structural design plans and technical specifications
    j. materials submittals
    k. public outreach plan
4. incorporation of city direction into designs, work plans, and submittals to prepare final documents to gain City approval
5. construction of improvements per Contractor's approved design and work plans
6. protection of vegetation and riparian zone, protection and restoration/repair if necessary of existing improvements
7. preparation of any design modifications as necessary to deliver project
8. incorporation of modifications as required into construction
9. public outreach
10. project management

EXHIBIT D: Project Compensation

Contractor is to provide all necessary services, labor, and material for the design and construction of the improvements described within this agreement. Compensation is based on lump sum payments for the delivery of project improvements. Monthly progress payments may be paid out to Contractor based on percentage of actual work completed per lump sum work item. Contractor is required to provide a schedule of values for the lump sum items with the initial submittal of the project schedule. Compensation for the base contract shall not exceed $497,610 for the delivery of the complete project. Additional compensation would be required in the amount $91,565 for additive option item #10 to pave the approach and access road on the northern side of the bridge as listed on Exhibit D-1, $34,327 for the SWPPP additive option for option listed on Exhibit D-2, and $4,830 for the additional geotechnical boring shown on D-3 if the option items are exercised. At the sole discretion of the City, the City may choose to exercise any of these additional alternative options by issuing a written direction to the Contractor to proceed with the additional work.

The City does not anticipate exercising the additive alternate items #11 for the encasement of helical piers for future widening or #12 the deduction for a narrower bridge and reduced deck thickness listed on Exhibit D-1.

DESIGN-BUILD SERVICES TULOCAY CREEK BICYCLE/PEDESTRIAN BRIDGE BUDGET ESTIMATE

BASE PROPOSAL

1.	**Mobilization.**	$ 20,050.00
2.	**Install BMP's, Clear and Grub Site.**	$ 9,390.00
3.	**Earthwork/Excavations.**	$ 6,980.00
4.	**Deep Foundation Installation.**	$ 54,625.00
5.	**PCC Improvements**	$103,525.00
6.	**Bridge**	$195,020.00
7.	**North and South approach installation.**	$ 42,260.00
8.	**Engineering Services.**	$ 61,910.00
9.	**Demobilization and Clean Up.**	$ 3,850.00
	Base Proposal Total	**$497,610.00**

ADD ALT OPTIONS

10.	**Pave approach and access road on the northern side of the Bridge.**		$ 91,565.00
11.	**Encasement of helical piers for future widening.**		$ 20,000.00
12.	**Install a 10 foot wide bridge with a 5 inch thick deck.**	**Deduct**	$ 22,000.00

EXCLUSIONS

1. Water surface determination (West Associates determination will be used)
2. Regulatory Permitting inc/ CDFW (permit has been acquired)
3. SWPPP, QSD or QSP Services
4. Subgrade preparation for new proposed asphalt section
5. Additional aggregate base required to pave northern section of roadway leading to where approach starts for northern access to bridge

DESIGN-BUILD SERVICES TULOCAY CREEK BICYCLE/PEDESTRIAN BRIDGE SWPPP OPTION ESTIMATE

SWPPP Option:

SWPPP option including all QSD and QSP responsibilities; this budget is based off Risk Level II requirements and the schedule dated 9/25/2014 (previously submitted with original project proposal)

INCLUDED:

1. Notice of Intent (NOI) for the Waste Discharge ID (WDID) Permit
2. SWPPP Plan.
3. Weekly Reporting.
4. REAPs.
5. Sampling for pH &Turbidity w/analysis
6. Annual Report.
7. NOT.

Option Proposal Total **$34,327.00**

Exclusion:

1. Risk Level III SWPPP requirements

Please don't hesitate to call with any questions.

Diann Nielson, President

Tulocay Creek Bridge
14248
12-22-2014
Page 1 of 1

147 Camino Oruga ◆ Napa, CA 94558-6215 ◆ (707) 253-8774 ◆ Fax: (707) 253-0131 ◆ CA Lic. No. 648601

EXHIBIT D-3: Boring Additive Alternate Item

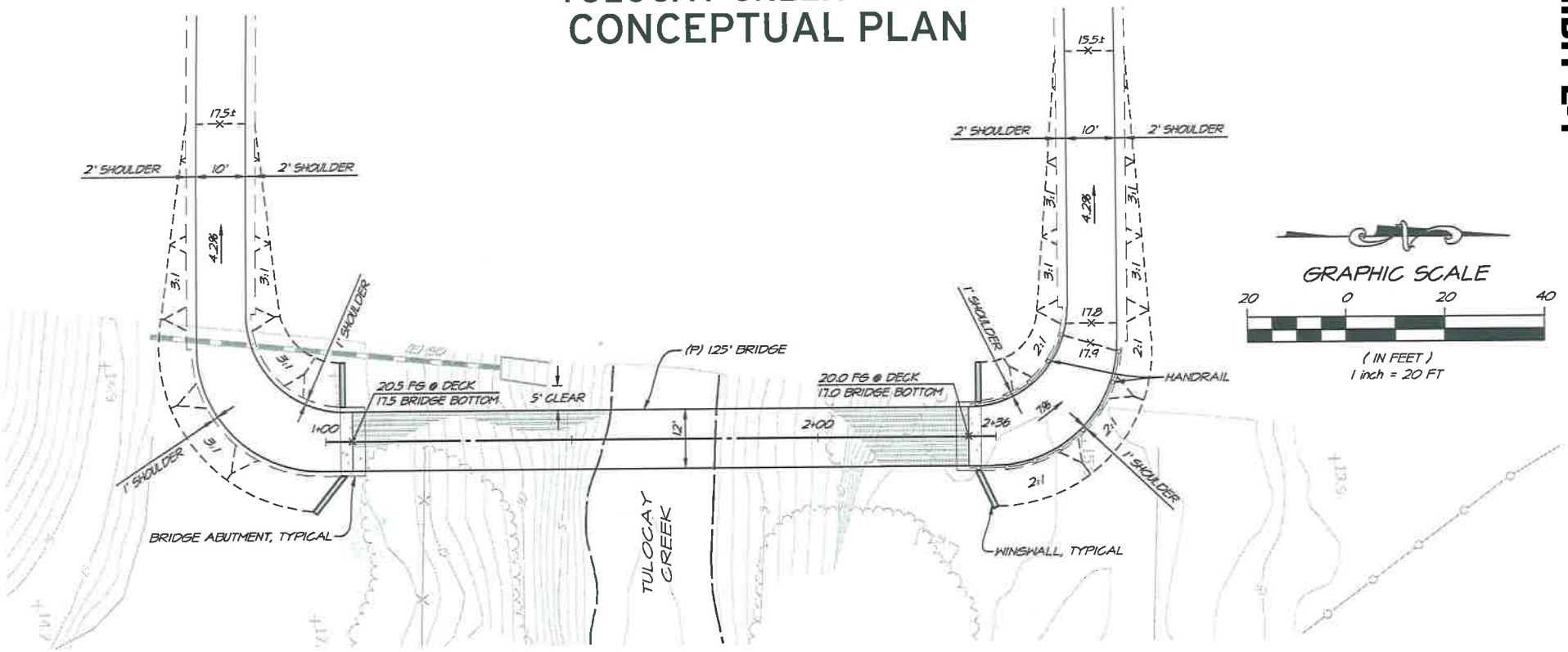
The base contract includes one geotechnical boring and the associated material testing to supplement the U.S. Army Corps of Engineers boring data included in the RFP. The existing boring data extends to approximately 20-feet below the surface. The additional boring is being proposed in order to help reduce the risk of encountering unforeseen subsurface conditions including buried obstructions. The boring will be advanced to a depth of approximately 50-feet.

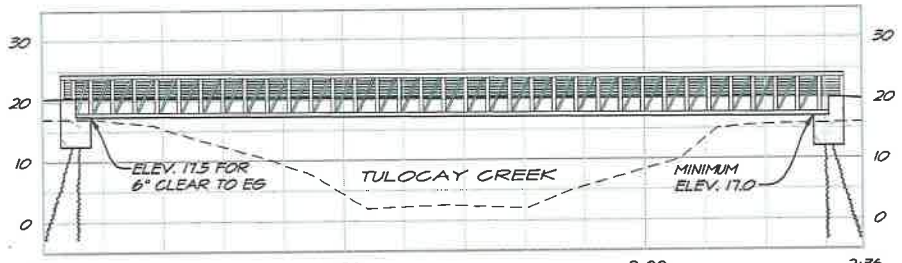
Option Proposal: $4,830.00

EXHIBIT E: Concept Plan and Hydraulic Analysis

Design and construction shall comply with the attached concept plan, the attached hydraulic analysis, all documentation included within the Request for Proposal issued by the City, and the Proposal submitted by G.D. Nielson. All work and contract administration shall be in compliance with the environmental permits and federal grant requirements.

TULOCAY CREEK BRIDGE
CONCEPTUAL PLAN





BRIDGE SECTION
HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 20'

GRAPHIC SCALE
20 0 20 40
(IN FEET)
1 inch = 20 FT

RSA+
1515 FOURTH STREET
NAPA, CALIF. 94559
OFFICE | 707 | 252.3301
+ www.RSAcivil.com +
RSA+ | CONSULTING CIVIL ENGINEERS + SURVEYORS + 1981

SEPTEMBER 24, 2014 4114435.0.12 Conceptual Plan.dwg

TECHNICAL MEMO

Date: 23 January 2013

To: Andrew Butler, P.E., Napa County Flood Control and Water Conservation District

From: Jake Gusman, P.E., and Vicki Tripolitis, WEST Consultants, Inc.

RE: **Tulocay Creek Pedestrian Bridge – Hydraulic Analysis**

1 INTRODUCTION AND PURPOSE

The proposed Tulocay Creek Pedestrian Bridge is part of the Napa River/Napa Creek Flood Protection Project. In addition to the bridge, the U.S. Army Corps of Engineers (USACE) plans to make future improvements to the Tulocay Creek channel to increase its capacity from Soscol Avenue to the Napa River.

1.1 Updated Tulocay Creek Hydrology

These future channel improvements were not included in the USACE Supplemental General Design Memorandum (SGDM) for the Flood Protection Project because the Tulocay Creek[1] 100-year discharge (1,500 cfs) was lower than the design discharge (3,200 cfs) for the existing channel (SCS, 1963).

The 100-year peak discharge was later increased to 4,530 cfs based on a hydrology study performed by the Napa County Resource Conservation District—a study that was checked and confirmed by the USACE Sacramento District (USACE, 2006). The updated hydrology was adopted by all involved agencies, including the USACE, Napa County Flood Control and Water Conservation District (NCFCWCD), and the City of Napa. Because the adopted 100-year peak discharge is over 40 percent larger than the original design discharge, channel and/or levee improvements are now required.

1.2 Pedestrian Bridge Hydraulic Analysis

Due to Federal budget constraints and the timing of other flood project components, it will likely be many years before the Tulocay Creek improvements are designed and constructed. Because the pedestrian bridge will serve as a vital link for opening the Napa Valley Vine Trail between Tulocay Creek and 6th Street, the local community has proposed to design and construct the bridge early using local resources.

[1] The SGDM refers to the channel as New Tulocay Creek. In the current technical memo, "Tulocay Creek" and "New Tulocay Creek" are used interchangeably. Also, Some agencies refer to Tulocay Creek as "Tulucay Creek."

The NCFCWCD requested that WEST Consultants, Inc. (WEST) perform a hydraulic analysis of Tulocay Creek for the proposed bridge. Because future channel improvements may increase the width of the channel at the proposed bridge, these improvements were also included in the analysis.

The purpose of the analysis was to estimate the following:

- Tulocay Creek channel width and levee heights required to convey the 100-year flood discharge with adequate freeboard.
- Number of additional culverts required for the Wine Train Bridge/culvert to coincide with the channel widening.
- Required pedestrian bridge clear-span length and soffit (i.e., low chord) elevation.

Note: All elevations in this technical memo are in the NGVD29 vertical datum.

2 HYDRAULIC MODELING

WEST used the HEC-RAS (River Analysis System) hydraulic model of Tulocay Creek previously developed for the FEMA map revision. The model was rerun using the latest version of HEC-RAS (Version 4.1). Figure 1 shows the model extents and cross sections with the location of the proposed pedestrian bridge. Figure 2 provides an oblique view of the study area from Google Earth.

2.1 Tulocay Creek Improvement Alternatives

Before the pedestrian bridge dimensions could be estimated, the required Tulocay Creek channel and levee improvements needed to be modeled. WEST developed and modeled the following two channel improvement alternatives:

Alternative 1. Raise Tulocay Creek Levees

- Raise the north levee
- No changes to channel bottom width

Alternative 2. Widen Channel and Raise Levees

- Raise the north levee
- Widen the channel on the south side: raise the south levee and move it further south
- Increase the capacity of the Wine Train box culvert (i.e., add two boxes) without modifying the existing railroad grade

While these two conceptual alternatives were selected for their feasibility, confirmation from the USACE Sacramento District will be required.

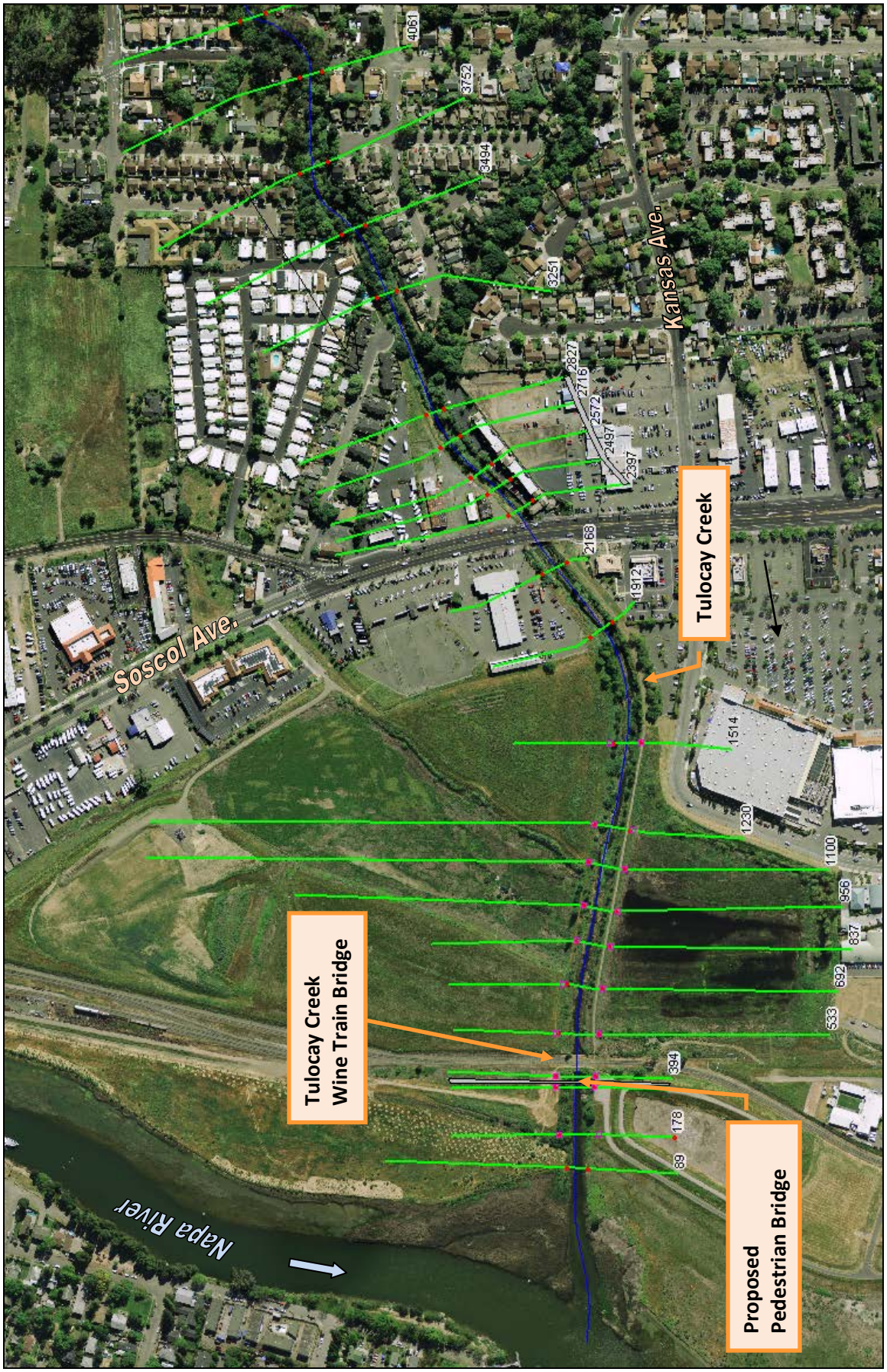


Figure 1. Tulocay Creek HEC-RAS Model Geometry

Figure 2. Oblique View of Tulocay Creek (Google Earth Image 2012)

2.2 Flow and Downstream Boundary Scenarios

Each alternative was modeled using two flow and downstream boundary scenarios:

1. Tulocay Creek 100-year peak flow with the downstream boundary based on the Napa River 50-year peak flow.

2. Tulocay Creek concurrent flow with the downstream boundary based on the Napa River 100-year peak flow.

The peak discharges used in the model are listed in Table 1, and are consistent with the latest computed flows from the USACE (2011). The Tulocay Creek downstream boundary condition is the Napa River WSE from WEST Consultants' Napa River HEC-RAS model. This model was run using the 50- and 100-year peak flows for the Napa River (USACE, 2011) along with the Corps downstream boundary for the Napa River.

At the Tulocay Creek confluence with the Napa River, there is no significant difference between the current interim conditions Napa River water surface elevation (WSE) and the ultimate conditions Napa River WSE (i.e., when the flood protection project has been completed).

Table 1. Tulocay Creek Flows and Downstream Boundary Conditions

No.	Flow Scenario	Tulocay Creek Discharge (cfs)*	Napa River Discharge d/s Tulocay Creek (cfs)	Tulocay Creek Downstream Boundary (ft, NGVD29)
1	Tulocay Creek 100-year peak flow with 50-year Napa River peak flow	4,530 (100-yr peak flow)	37,610 (50-yr peak flow)	12.94
2	Tulocay Creek concurrent flow with 100-year Napa River peak flow	1,660 (concurrent flow)	42,410 (100-yr peak flow)	13.91

2.3 Levee Freeboard and Bridge Clearance

FEMA requires a minimum freeboard of 3 feet for all levees and at least 4 feet within 100 feet of a bridge or culvert. Bridge clearance from the 100-year WSE to the low chord of the bridge was assumed to be 3 feet based on USACE Sacramento District requirements for the Behrens Street Pedestrian Bridge.

3 MODEL RESULTS

Proposed Alternatives 1 and 2 were each modeled with both flow scenarios. At the pedestrian bridge, the Napa River backwater associated with Flow Scenario #2 is higher than the WSE from the Tulocay Creek 100-year peak flow (13.91 ft vs. 12.97 ft).

Water surface elevation profiles for Tulocay Creek existing conditions and the two alternatives are shown in Figure 3. Profiles for existing conditions and Alternative 1 are equivalent because the increased levee heights in Alternative 1 provide the required freeboard, but do not affect computed flood elevations. In addition, the proposed pedestrian bridge in Alternative 1 does not affect 100-year flood elevations. Alternative 2, with its wider channel, represents the more conservative of the two alternatives in terms of determining the length of the pedestrian bridge. The 25-feet wider channel and two additional box culverts at the Wine Train crossing lower the water surface profile a maximum of 1.7 feet compared to existing conditions (see Figure 3).

Water surface elevations, freeboard, and proposed levee elevations for Alternatives 1 and 2 are provided in Table 2 and Table 3, respectively. While Alternative 1 does not require moving the levee or additional box culverts for the Wine Train Crossing, the required levee heights are greater than those required for Alternative 2. In addition, 100-year channel velocities are generally 5 to 6 ft/sec for Alternative 1, while they are 4 to 5 ft/sec for Alternative 2. This difference is important for a vegetated channel.

In terms of the pedestrian bridge, Alternative 1 yields a 100-ft clear-span bridge opening while Alternative 2 yields a 125-ft opening (see Figure 4 and Figure 5, respectively).

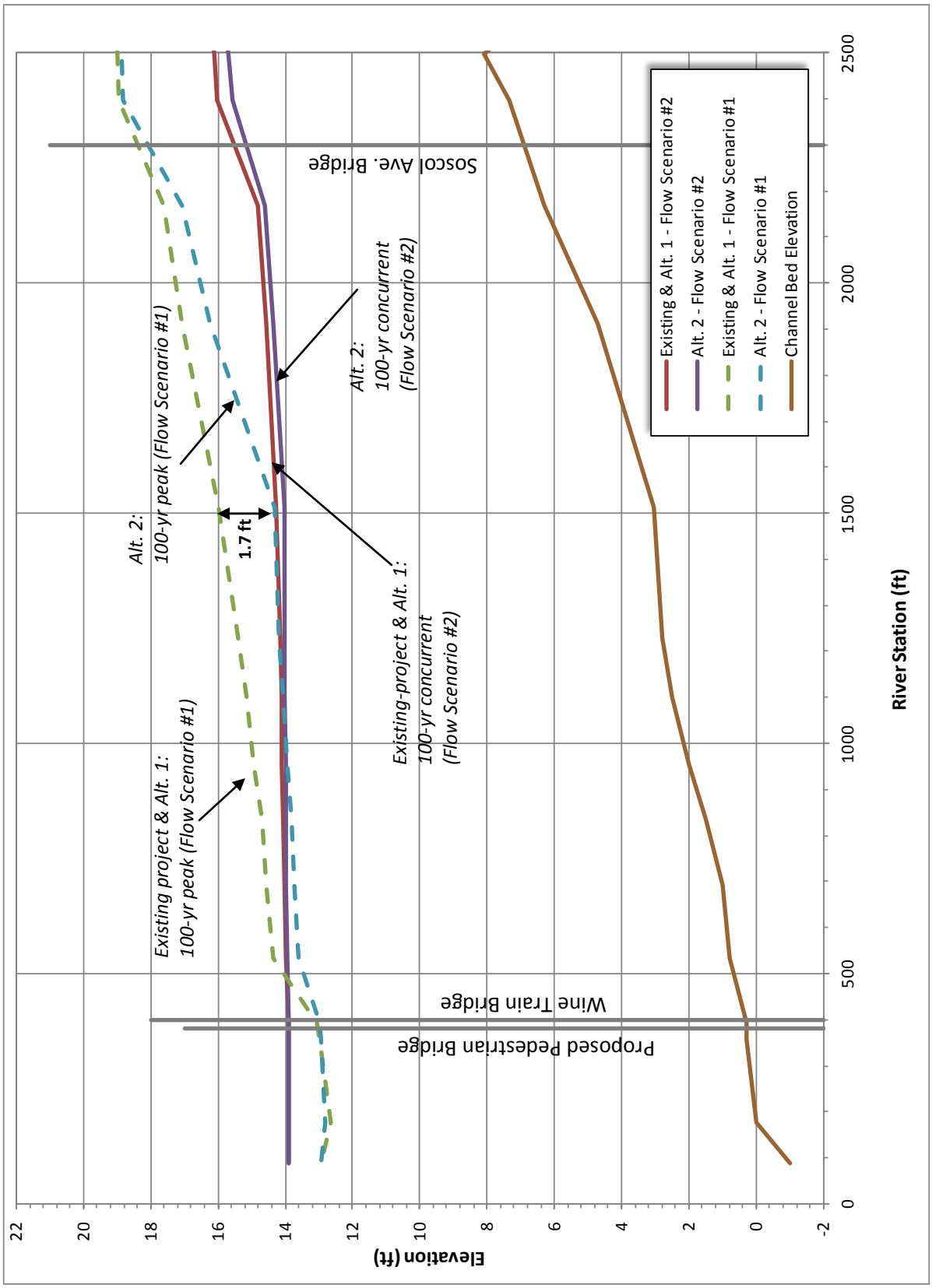


Figure 3. Tulocay Creek Computed Water Surface Profile Comparison

Table 2. Existing vs. Alternative 1 Levee Elevations

River Station	Existing Levee Elevation (ft)		Max 100-yr WSE[1]	Minimum Design Freeboard (ft)	Alternative 1
	South	North			Proposed Levee Elevations (ft)
1514	16.56	16.40	16.01	3	19.1
1230	16.58	15.93	15.42	3	18.5
1100	16.06	15.53	15.20	3	18.2
956	16.04	16.06	14.96	3	18.0
837	16.05	16.10	14.74	3	17.8
692	16.02	not applicable	14.60	3	17.6
533	16.02	not applicable	14.40	4	18.4
400	Wine Train Box Culvert				
394	16.19	16.07	13.93	4	18.0
380	Proposed Pedestrian Bridge				
357	16.19	16.07	13.92	3	18.0
178	15.81	15.78	13.89	3	16.9

1. Max WSE: Maximum of the Tulocay concurrent flow WSE and the peak flow WSE.

Table 3. Existing vs. Alternative 2 Levee Elevations

River Station	Existing Levee Elevation (ft)		Max 100-yr WSE[1]	Minimum Design Freeboard (ft)	Alternative 1
	South	North			Proposed Levee Elevations (ft)
1514	16.56	16.40	14.33	3	17.4
1230	16.58	15.93	14.20	3	17.2
1100	16.06	15.53	14.06	3	17.1
956	16.04	16.06	13.99	3	17.0
837	16.05	16.10	13.98	3	17.0
692	16.02	not applicable	13.97	3	17.0
533	16.02	not applicable	13.95	4	18.0
400	Wine Train Box Culvert				
394	16.19	16.07	13.91	4	18.0
380	Proposed Pedestrian Bridge				
357	16.19	16.07	13.91	3	18.0
178	15.81	15.78	13.90	3	17.0

1. Max WSE: Maximum of the Tulocay concurrent flow WSE and the peak flow WSE.

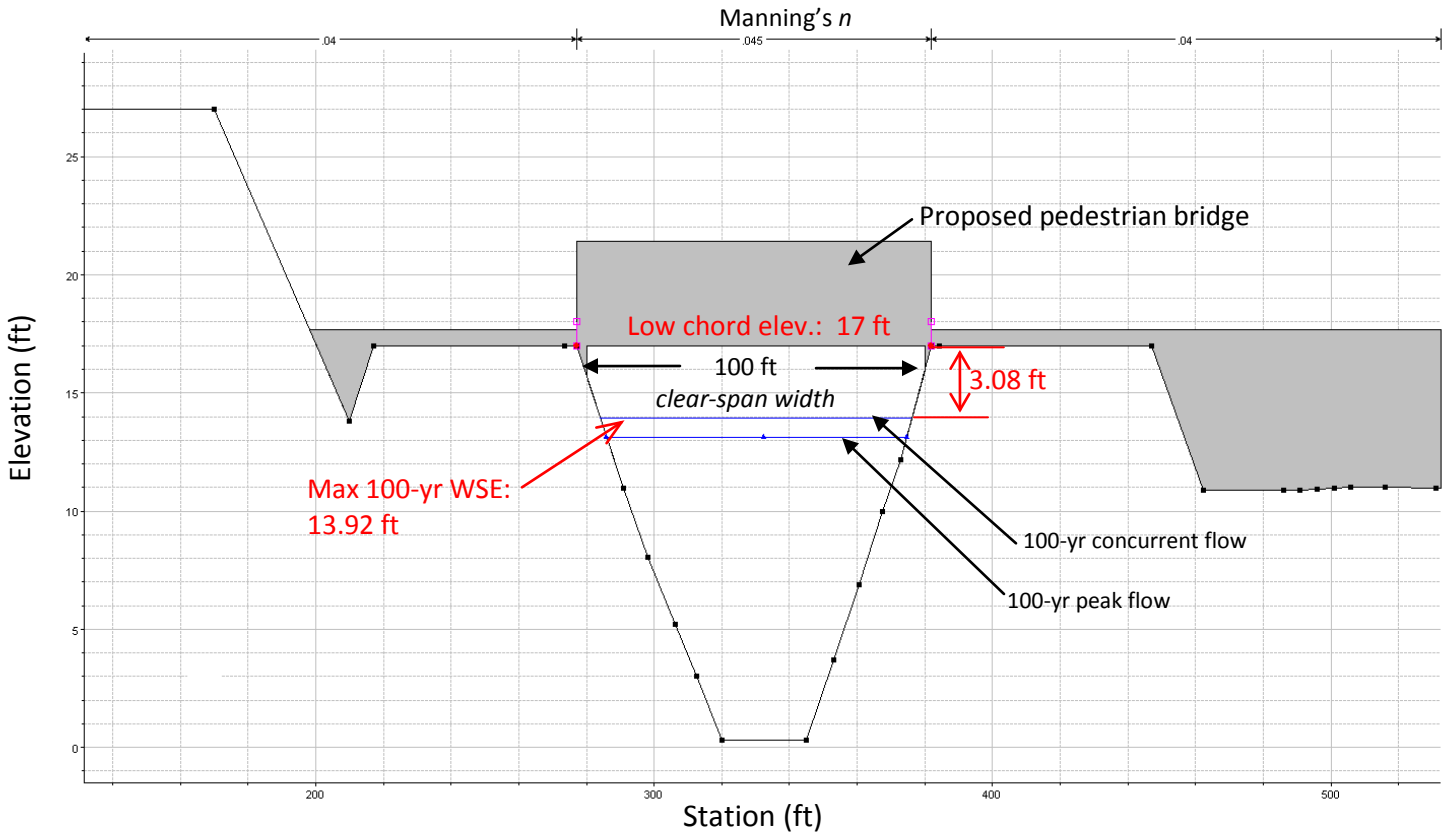


Figure 4. Alternative 1 - Upstream Side of Proposed Pedestrian Bridge

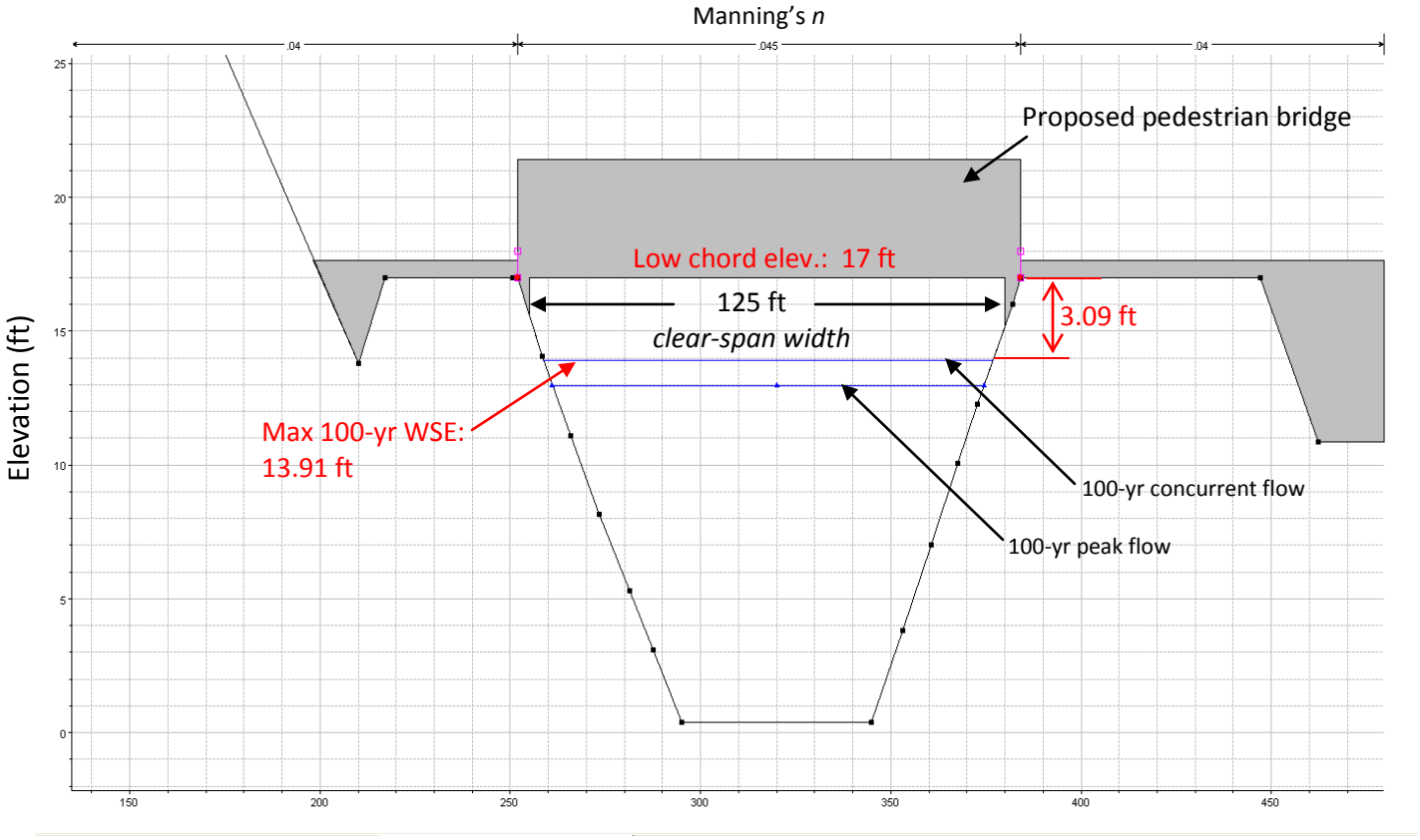


Figure 5. Alternative 2 - Upstream Side of Proposed Pedestrian Bridge

4 RECOMMENDED BRIDGE DIMENSIONS

Alternative 2 represents a conservative scenario in terms of the required clear-span length for the pedestrian bridge. The recommended pedestrian bridge dimensions are as follows:

- Clear-span length: 125 ft
- Minimum bridge low chord elevation: 17.0 ft (NGVD29)

5 REFERENCES

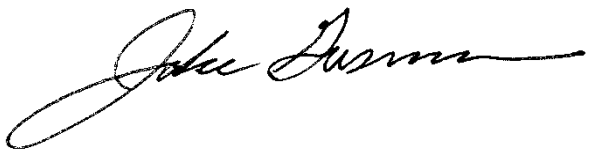
SCS (1963). "Napa River Watershed, Tulucay Creek Channel Design Calculations Hydrology." USDA Soil Conservation Service.

USACE (2006). "Tulocay Creek – Hydrology Review." Memorandum for Record dated 6 July 2006.

USACE (2011). "Napa River Hydrology, Computed Probability Flows." Memorandum for Record dated 13 January 2011.

Should you have any questions or comments, please feel free to contact me at (858) 487-9378.

Sincerely,



A. Jake Gusman, P.E.
Project Manager
WEST Consultants, Inc.

This work was prepared by me or under my supervision.

EXHIBIT F: Environmental Permits

The construction of the Tulocay Creek Bicycle/Pedestrian Bridge was included in the environmental impact report and environmental permitting for the Napa River/Napa Creek Flood Protection Project. A water quality sampling plan is required to be prepared and implemented for any work below top of bank.

Rock slope protection shall not be used on this project. If construction is required below the surface of highest tide, a plan detailing the dewatering activities must be included and approved by the permitting agencies. The plan must protect the creek from sediment (and any other materials) and minimize the area impacted.

The design build team shall provide plans to and meet with (if necessary) the following agencies for the project: California Department of Fish and Wildlife Section 1600 Streambed Alteration Permit, San Francisco Bay Regional Water Control Board Section 404 Permit, and US Army Corps of Engineers (USACE). The City is currently completing the USACE Nationwide Permit process, and the 45-day review period of the preconstruction notification ends August 25, 2014. The City has recently consulted with the California Department of Fish and Wildlife and the San Francisco Bay Regional Water Quality Control Board to make these agencies aware of the project, and these two agencies indicated no specific concerns or requests regarding this project.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

DEC 14 1998

Colonel Dorothy F. Klasse
District Engineer
U.S. Army Corps of Engineers
Sacramento District
1325 J Street
Sacramento, California 95814-2922

Dear Colonel Klasse:

Thank you for your August 26, 1998, letter requesting concurrence under section 7 of the Endangered Species Act that the Napa River Flood Reduction Project is not likely to adversely affect steelhead.

My staff worked closely with you, other agencies, the citizens of Napa, and many other stakeholders to develop this project, which is an exemplary, visionary approach towards flood management. Unlike a typical flood control project, which relies almost exclusively on channelization, levee-building, and other engineering features that remove natural habitat, this project provides protection to the city and county of Napa through minimal channel modifications, floodwalls, floodplain restoration, and wetland creation, retaining and/or enhancing the natural characteristics of the river wherever feasible. I strongly support this project and commend you and your staff for your excellent work.

Even though this project is designed to protect and restore habitat and is not expected to result in any long-term loss of habitat, there are some unavoidable, short-term impacts related to construction of this project that may result in incidental take of steelhead. The attached non-jeopardy biological opinion therefore includes an incidental take statement which authorizes unavoidable incidental take of this species.

This concludes section 7(a)(2) consultation for the threatened Central California coast steelhead ESU. Should project plans

change, or if additional information on the species becomes available, this determination may be reconsidered.

I look forward to working with you as this project is implemented and monitored. The coalition that was brought together to conceive this new project will need to continue to work together in order to ensure that this project is properly managed over the long-term. If you have any questions, please contact Mr. Miles Croom of my staff at (707) 575-6068.

Sincerely,

Rodney R McInnis

for William T. Hogarth, Ph.D.
Regional Administrator

Enclosure

Endangered Species Act
Section 7 Consultation- Biological Opinion

Agency: U.S. Army Corps of Engineers

Activity: Construct the Napa River/Napa Creek Flood Protection Project, which aims to provide flood protection by reconnecting the Napa River to its flood plain, creating wetlands through the area, maintaining fish and wildlife habitats, and retaining the natural characteristics of the river. It would provide most of the City of Napa between Trancas Street and Imola Avenue with a 100-year level of flood protection.

Consultation Conducted By:
National Marine Fisheries Service
Southwest Region, Habitat Conservation Division
Northern California Habitat Team

Date Issued: DEC 14 1998

Background/Proposed Activity (Corps, 1998)
The primary purpose of the Napa River/Napa Creek Flood Protection Project is to provide an economically feasible and environmentally sensitive method to protect the city and county of Napa from periodic flooding, up to the computed 100-year flood event in most of the city of Napa. No less than 27 significant floods have occurred in the city and county of Napa since 1862, including major floods in 1955 and 1986. In 1986, three people died, approximately 7,000 people were evacuated, 245 homes and 120 businesses were damaged, and 25,000 people were without electricity for several days. Napa County estimates that it sustained over $100 million in property damage in the 1986 flood. Additional flooding in 1995 and 1997 caused significant flood damage and community disruption.

The current project was authorized as a federal project by the Flood Control Act of 1965, P.L. 89-298. The first project design, developed in 1970, met with considerable resistance from local citizens and was substantially altered to alleviate concerns regarding aesthetics, recreation, and river access.

The design proposal was modified further in 1975, and a federal Environmental Impact Statement was approved for the project. The 1975 proposal consisted of channel straightening, widening, and deepening. The existing oxbow was to be eliminated entirely, and most river banks were to be lined with riprap. This project was defeated in local referendums in 1976 and 1977.

In 1987 the project was reactivated in response to the impacts of the 1986 flood. A first Draft Supplemental General Design Memorandum and Draft Supplemental Environmental Impact Statement were released for public comment in April 1995. The 1995 proposal relied primarily on channel deepening and widening as a means of flood control, and also incorporated a "wet" bypass that would divert the Napa River from the downtown oxbow at all times. The 1995 proposal generated numerous comments from both citizens and resource protection agencies, including the U.S. Department of the Interior, National Marine Fisheries Service, California Department of Fish and Game, California Regional Water Quality Control Board, and California State Lands Commission. NMFS' concerns for fisheries included potential project impacts to riparian habitat, water quality (salinity and oxygen content), rearing habitat, sediment loads, instream temperatures, dredging and dredge disposal problems, and fish passage. NMFS was particularly concerned with potential impacts to Central California coast steelhead, which at the time was under consideration for listing under the federal Endangered Species Act (ESA).

Because of the large amount of public and agency concern regarding the 1995 proposal, a collaborative process was initiated with the local community and resource agencies to refine and re-design the flood management project. The Community Coalition, with the assistance of outside consultants, resource agencies, city/county staff, and the Corps of Engineers, developed the major concepts in the current preferred alternative to meet the dual objectives of flood damage reduction and environmental protection/enhancement. The Community Coalition process has been one of unprecedented cooperation among a large number of stakeholders and agencies, and has resulted in a preferred project that enjoys widespread agency and public support.

At one time, the Napa River supported a dense riparian forest, provided significant wetland habitats alongside the river, and included significant spawning areas for fish such as salmon and steelhead. However, the pressures of urbanization, agriculture, and grazing have degraded these habitats and the quality of the natural environment around the river.

The Community Coalition agreed to pursue a "living river" strategy. As defined by the Coalition, a living Napa River would consist of a system with structure, function, and diversity. It would have physical, chemical, and biological components that function together to produce complex, diverse communities of people, plants, and animals. A living Napa River would function properly when it conveys variable flows and stores water in the floodplain, balances sediment input with sediment transport, provides good quality fish and wildlife habitat, maintains good water quality, provides water supply, recreation, and aesthetic values, and generally enhances the human environment.

The Coalition's living river strategy was founded upon a recognition of the natural processes and characteristics of the river itself, following the principles of fluvial geomorphology:

- maintain the natural slope of the river- the slope should not be altered significantly by dredging or straightening;
- maintain the natural width of the river;
- maintain the natural width/depth ratio of the river;
- maintain or restore the connection of the river to its floodplain;
- allow the river to meander as much as possible;
- maintain channel features such as mudflats, shallows, sandbars, and a naturally uneven bottom; and
- maintain a continuous fish and riparian corridor along the river.

The proposed project has been developed to respond to the need to provide flood protection while restoring the habitat value of the

Napa River. The proposed project differs markedly from previously identified project alternatives, which were more traditional flood control projects. The proposed project includes the following:

- Dike lowering or removal south of Imola Avenue, which will allow the Napa River to flow in a wider area, thereby increasing conveyance capacity and reducing upstream water surface elevations.

- Channel modifications to create flood terraces, which will create additional flood capacity along the river and lower water surface elevations, while also providing valuable wetland and upland habitat. Channel widening has been proposed as an alternative to the previously proposed channel deepening.

- Development of a "dry" bypass channel to bridge the Napa River Oxbow. This bypass will allow low water flows to remain in the oxbow, thereby maintaining the oxbow's natural characteristics, but it will divert flood flows out of the oxbow and on a more direct route through Central Napa.

- New dikes, levees, and floodwalls will be constructed in certain areas to help contain 100-year flood flows.

- Pump stations will remove water from behind floodwalls and levees, and pump the water back to the Napa River.

- A number of bridges in downtown Napa will be replaced with bridges designed to have higher clearances that better pass flood flows.

The preferred alternative would be implemented along approximately 6.9 miles of the Napa River, from the Highway 29/121 bridge near Horshoe Bend north to Trancas Street.

Additionally, the preferred alternative includes approximately 0.66 miles of channel modification on Napa Creek between the Napa River and Jefferson Street. Flood management features proposed on Napa Creek include installation of a dry bypass culvert between Jefferson and Seminary Streets, creation of a flood terrace through one-side overbank excavation between Seminary and

Clinton Streets, installation of a new dry bypass culvert between Pearl and Main Streets, bank erosion control, and removal of several existing bridges.

The project also includes one grade control structure on Napa Creek. To prevent stream degradation upstream of the project on Napa Creek, a grade control structure would be installed just below Jefferson Street. The structure would be designed so that it is not a barrier to fish passage (with review and approval by NMFS fish passage engineers) and it would have the appearance of a pool and riffle environment. Large boulders and rootwads would be incorporated into the design to improve aquatic habitat values in the grade control structure's footprint area.

Finally, the preferred project will lead to implementation of the conceptual Napa River Enhancement Plan, which will be funded and cost-shared separately from the flood protection project. The Enhancement Plan would restore physical processes and enhance ecologic functions in the South Wetlands Opportunity Area, which extends from the Newport North Marina to the Highway 29 bridge on the west side of the river. The Enhancement Plan calls for restoring 282 acres of intertidal marsh; 219 acres of high marsh; 350 acres of upland in historic alluvial floodplains; and restoring or preserving 176 acres of seasonal wetlands.

Listed Species and Critical Habitat

For general background information on the status of the threatened Central California coast steelhead, please refer to Attachment 1.

Central California coast steelhead primarily use the lower Napa River as a migration corridor from December to May to reach spawning and rearing grounds in Tulocay, Napa, Redwood, Miliken, Dry, and Bell Canyon creeks (Corps, 1998). Napa Creek can provide year-round rearing conditions for juvenile steelhead, but there are no spawning areas within the project area. Steelhead are not normally found in the Napa River from June through November. The total steelhead population in the Napa River watershed system has declined from historical estimates of 6,000 annual spawners to current estimates of a few hundred annual adult spawners (USFWS, 1997).

JUNE THROUGH NOV.

Historically, large runs of coho salmon also utilized the Napa River watershed system. Coho salmon, now listed as threatened throughout their range in California, have been extirpated from the Napa system (USFWS, 1997).

Juvenile chinook salmon runs may use the estuarine portions of the lower Napa River for rearing during their outmigration period, but are expected to remain below the project area. Therefore, this project is not expected to affect any listed or proposed chinook salmon runs, including the endangered winter-run chinook salmon, the proposed-threatened Southern Oregon/California Coastal fall-run chinook salmon ESU, the proposed-endangered Central Valley spring-run chinook salmon, or the proposed-threatened Central Valley fall/late-fall chinook salmon. Threatened Central Valley steelhead are also not expected to move upstream beyond the lower, estuarine portions of the Napa River.

Assessment of Impacts

Direct impacts can be divided into three categories: construction-related impacts, short-term habitat impacts (before mitigation), and long-term habitat impacts (post-mitigation). Construction-related impacts potentially include 1) turbidity/sedimentation impacts, 2) displacement and disturbance of rearing animals in construction zones, and 3) other water quality impacts, such as fuel spills from construction equipment. Habitat components important to steelhead which are potentially affected by this project over the short-term and long-term include instream aquatic habitat (pools/riffles/fish passage), tidal marsh, tidal mudflats, and shaded riverine aquatic cover (that portion of riparian habitat along the stream that directly affects the live stream ecosystem).

Construction-Related Impacts Steelhead may avoid utilization of areas affected by increased turbidity during construction. To avoid this impact, in-water construction in the Napa River and Napa Creek will be limited to between June 1 and October 15. Silt curtains will be deployed around areas of bridge removal, bridge construction, and construction of culvert inlets and outlets to minimize the dispersion of suspended sediment. During the construction period, it is likely that juvenile steelhead would only be found in the Napa Creek portion

of the project. The turbidity management measures should minimize impacts to rearing juveniles in construction areas; however, it may be prudent to capture and relocate juvenile steelhead that are in areas which will be significantly disturbed by construction activities.

Instream Aquatic Habitat Impacts Juvenile steelhead could potentially be stranded in the dry bypass or Napa Creek bypass after a flood event. Fish passage could be affected by the instream grade control structure on Napa Creek. Final design of the bypasses and grade control structure will be reviewed and approved by NMFS to ensure that the all designs are adequate to minimize the risk of fish stranding and allow for fish passage under seasonal streamflow patterns.

Short-Term and Long-Term Habitat Impacts Construction of the project will result in initial losses of riparian habitat, shaded riverine aquatic cover (SRA), emergent marsh, and other habitat elements that may contribute to steelhead rearing habitat. Habitat impacts before and after mitigation, excluding habitat creation associated with the Napa River Enhancement Plan are summarized in the following table, (Corps, 1998):

Habitat Type	Acres Impacted	Acres Created	Net Change in Acres
Riparian Forest above oxbow	1.92	1.56	-0.36
Riparian forest below oxbow	2.55	15.15	+12.6
Riparian forest Napa Creek	0.97	0.97	0.00
Riparian scrub-shrub	1.80	10.68	+8.88
Low Value Woodlands	11.24	0.00	-11.24
High Value Woodlands	0.99	11.07	+10.08
Brackish emergent marsh	7.32	31.43	+24.11
Seasonal wetlands	44.18	45.00	+0.82
Tidal mudflats	0.61	27.50	+26.89
Shaded Riverine Aquatic Cover	0.19	2.57	+2.38

Table 1. Post-construction and post-mitigation habitat impacts, from Corps (1998), page 3.4-27, excluding the habitat created by the Napa River Enhancement Plan.

As can be seen from the above table, there should be a net increase in habitat values for steelhead over the life of the project. The Napa River Enhancement Plan would create an additional 110.9 acres of high-value woodlands, and an additional 104.3 acres of brackish emergent marsh.

However, there could be short-term impacts during the period after original loss of habitat from project construction, and before the establishment of mitigation plantings.

Concern regarding the degradation of anadromous fish habitat as a result of shade losses from limited tree removal and grading on the north bank of Napa Creek prompted modeling to determine potential thermal impacts (Corps, 1998). Results of the shade simulation model indicate that construction of a flood terrace along the north bank, and removal of all north bank vegetation, will reduce total stream shading from 25 to 30%.

These assumptions are more extreme than the conditions proposed under the project, which would retain some trees and provide for replanting of trees between the proposed bank and terrace. Approximately 2 acres of riparian vegetation will be planted to compensate for the loss of approximately ½ acre of non-native riparian loss between Seminary and Pearl streets. A riparian strip will be established along the terrace to provide shading for the low flow channel, and existing vegetation below the streambank terrace will be left in place. A new riparian strip, three feet in width, will be planted on the excavated terrace. The combination of existing vegetation and newly planted vegetation should result in a riparian strip with a combined width of 9 to 14 feet, depending on existing bank slopes.

However, even with these worst-case assumptions, the model analysis determined that implementation of the north streambank flood terrace would not have a significant effect on stream temperatures (Corps, 1998b). The Corps will provide status reports of planted vegetation growth during the 3-year vegetation establishment period (Corps, 1998b).

Napa Creek has limited water conveyance capacity; even after project construction, large woody debris that could form log jams will be removed from the channel to avoid loss of flood conveyance. However, the project proposal states that smaller woody debris will be left in the channel (Corps, 1998b).

Disturbance of bank habitat could promote rapid colonization by non-native invasive plant species, such as Arundo donax. However, the project includes preparation of a detailed Vegetation Establishment and Monitoring Plan (VEMP). The VEMP will restrict all plantings to native species; define site preparation and revegetation procedures, planting design, implementation schedule, and funding sources to ensure long-term management of the overall wetland and riparian revegetation effort; and provide for the initial and future control of invasive exotics during monitoring of the revegetation effort; and include performance criteria, survival rates, establishment rates and periods, long-term objectives, and contingency measures if performance standards and mitigation objectives are not met (Corps, 1998).

The project includes bank stabilization near bridges, culvert and bypass entrances/exits from the live channel, in the Napa River oxbow, and at other high-energy locations subject to active erosion. Riprap rock protection will be utilized in the areas with the highest expected erosion potential. However, the project designers are committed to using biotechnical methods to the extent feasible (Corps 1998b). Riparian pole plantings will be installed in riprapped areas at bypass culvert exits (Corps 1998b). Even with the expected riprap installations, the project is expected to result in a net increase in habitat as detailed in Table 1 above.

Over the long-term, the dramatic increases in tidal mudflats and brackish emergent marsh from habitat restoration activities should increase the available rearing habitat and food supply for steelhead.

Cumulative Effects Most actions affecting steelhead or their habitat within the mean high water line of the Napa River and its major tributaries should be subject to federal section 7 consultation with the Corps of Engineers prior to issuance of a Section 404 Clean Water Act permit. This includes new dredging, maintenance dredging of the Napa River navigation channel, fill activities, dock construction, and shoreline repair/revetment activities. New point discharges would be subject to regulation under the Environmental Protection Agency's NPDES permit program, and would therefore also be subject to section 7 consultation.

New, non-federal actions which are reasonably certain to occur in the action area during the term of this biological opinion, and which do not fall under section 7 consultation through either EPA or the Corps of Engineers include small-scale modifications to local infrastructure, such as new housing developments, minor changes to local water project operations, and minor changes to sewage treatment operations. None of these actions are expected to result in significant adverse impacts to Central California Coast steelhead within the Napa River watershed system. Nor are these actions expected to significantly degrade the existing environmental baseline.

Environmental Baseline

Central California coast steelhead primarily use the lower Napa River as a migration corridor from December to May to reach

spawning and rearing grounds in Tulocay, Napa, Redwood, Miiliken, Dry, and Bell Canyon creeks (Corps, 1998). Napa Creek can provide year-round rearing conditions for juvenile steelhead, but there are no spawning areas within the project area. Steelhead are not normally found in the Napa River from June through November. The total steelhead population in the Napa River watershed system has declined from historical estimates of 6,000 annual spawners to current estimates of a few hundred annual adult spawners (USFWS, 1997).

The causes of this decline are described in Attachment 1. In general, riparian habitat loss and degradation, water quality degradation (from agricultural and urban development), construction of dams in spawning tributaries (e.g. Milliken Reservoir, Conn Dam, Rector Reservoir, Kimball Canyon Dam, Bell Canyon Reservoir), culverts and other barriers, and water diversions have contributed to the decline of steelhead production in the Napa River watershed.

No data are currently available to quantitatively assess the extent to which these impacts have increased or decreased within the Napa River watershed, or in other watersheds of the ESU, since the original listing of the ESU in 1997. In general, it is believed that these activities have probably resulted in limited additional cumulative impacts to steelhead and their habitat since the original listing, but that steelhead populations are at levels similar to those that occurred at the time of the listing. Some of these impacts may have been partially offset by various activities, such as the restoration of tidal wetland habitat in northern San Pablo Bay. Also, local steelhead populations may have recovered slightly since the end of the early-1990's drought.

Conclusion

Based on the best available scientific and commercial information and the analysis in this opinion, NMFS concludes that implementation of the Napa River/Napa Creek Flood Reduction Project is not likely to jeopardize the continued existence of the threatened Central California Coast steelhead ESU. Adverse effects are expected to be limited to short-term construction-related impacts and initial habitat losses. Incidental take of

steelhead is expected to be limited to displacement, relocation, and *de minimis* incidental mortality of juvenile steelhead from construction areas in Napa Creek during the construction period. However, the Napa Creek construction area constitutes a small fraction of available rearing habitat within the watershed system. Over the long-term, the project should result in a net increase in available habitat for the ESU within the Napa River watershed system, thereby contributing to recovery of the ESU.

Conservation Recommendations

Section 7(a)(1) of the ESA directs federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of threatened and endangered species. These "conservation recommendations" include discretionary measures that the Corps of Engineers can take to minimize or avoid adverse effects of a proposed action on a listed species or critical habitat or regarding the development of information. In addition to the terms and conditions in the Incidental Take Statement, NMFS provides the following conservation recommendations that would reduce or avoid adverse impacts to steelhead:

(1) The Corps and local project sponsors should use biotechnical bank stabilization methods on an aggressive, adaptive management basis. Experienced consultants and designers should be used to develop biotechnical designs on a location-specific basis. Potential methods include cabling of logs and rootwads, cribwalls, planted gabion terraces, and other "fish-friendly" designs (Riley, 1998). If these approaches fail, then more traditional bank stabilization methods, such as riprap, can be considered on an adaptive management basis. However, riparian features should be incorporated into all bank stabilization designs to the maximum extent feasible, such as for projects proposed by the Corps on the Lower American River (USFWS, 1998).

(2) Prior to construction in the Napa Creek project reaches, the Corps of Engineers should conduct juvenile steelhead surveys in the project area to determine their location in rearing pools and riffles. Juvenile steelhead rearing in areas that cannot be adequately protected by turbidity control measures and other impact minimization measures should be relocated to other suitable rearing habitat before construction.

(3) The Corps of Engineers and other project partners and stakeholders should develop and implement a fish and wildlife population monitoring plan to assess the short-term impacts and long-term benefits of the project's habitat enhancements to fish and wildlife populations.

(4) The Corps of Engineers should provide technical and financial assistance to help ensure successful implementation of the Napa River Enhancement Plan. Specifically, the additional 104.3 acres of brackish emergent marsh that would be restored by the Enhancement Plan would provide a significant benefit to Central California coast steelhead.

Reinitiation of Consultation

Reinitiation of formal consultation is required if (1) the amount or extent of incidental taking in any incidental take statement is exceeded; (2) new information reveals effects of the action may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action.

Incidental Take Statement

Section 7(b)(4) of the ESA provides for the issuance of an incidental take statement for the agency action if the biological opinion concludes that the proposed action is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat. In such a situation, NMFS will issue an incidental take statement specifying the impact of any incidental taking of endangered or threatened species, providing for reasonable and prudent measures that are necessary to minimize impacts, and setting forth the terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures. Incidental takings resulting from the agency action, including incidental takings caused by activities authorized by the agency, are authorized under the incidental take statement only if those

takings are in compliance with the specified terms and conditions.

This statement authorizes minimal incidental take of threatened Central California Coast steelhead. It is expected that incidental take, if any, should be minimal- less than a few hundred juveniles per year, for all listed and unlisted salmonid ESU's. If incidental mortality of juvenile steelhead exceeds more than 100 juveniles per year, the Corps of Engineers shall re-initiate section 7 consultation, so that impact avoidance and minimization measures can be reviewed and modified as necessary.

Reasonable and Prudent Measures

(1) The Corps of Engineers will actively manage the Napa River/Napa Creek Flood Reduction Program, along with the Napa County Flood Control and Water Conservation District (NCFCWCD), other resource agencies, and the citizens of Napa, to minimize impacts to steelhead and their habitat, and to maximize habitat enhancement and restoration.

(2) The Corps of Engineers shall annually report to NMFS the status of project activities and any take of Central California coast steelhead resulting from construction or operation of the project.

(3) All bank stabilization designs shall be reviewed and approved by NMFS.

(4) The habitat creation goals listed in Table 1 above for tidal mudflat, brackish emergent marsh, shaded riverine aquatic cover, and riparian habitat shall all be achieved by the project.

(5) The Corps of Engineers shall avoid stranding juvenile steelhead and minimize fish passage impacts from the instream grade control structure on Napa Creek.

Terms and Conditions

The *de minimis* level of incidental take identified above is authorized provided that the Corps of Engineers ensures compliance with the following terms and conditions, which are non-discretionary:

(1) The Corps of Engineers will actively manage the Napa River/Napa Creek Flood Reduction Program, along with the Napa County Flood Control and Water Conservation District (NCFCWCD), other resource agencies, and the citizens of Napa. Active management shall include implementation of all proposed mitigation, including habitat creation, seasonal construction windows, and construction impact minimization measures, as detailed in Corps (1998) and Corps (1998b).

(a) The Corps of Engineers shall prepare a compilation of the annual, cumulative effects of the program, and shall provide this report to NMFS by December 31st of each year.

(b) All projects shall adhere to all impact mitigation and seasonal construction window commitments described in Corps (1998) and Corps (1998b). No deviations from these commitments shall occur without the prior notification and approval of NMFS. NMFS-approved deviations should be reflected in subsequent Flood Reduction and VEMP Management Plan revisions.

(2) NMFS will be given an annual report summarizing all flood reduction, bank stabilization, and habitat mitigation/restoration activities conducted pursuant to the project, by December 31st. This report shall include an estimate of all incidental take of steelhead resulting from disturbance, relocation, or incidental mortality. This report shall also include a summary of all planned activities for the upcoming year.

(3) Biotechnical, "fish-friendly" bank stabilization designs shall be used to the maximum extent practicable. NMFS shall be given at least 60 days to review and comment on all bank stabilization plans and designs prior to their construction. If these biotechnical approaches fail, then more traditional bank stabilization methods, such as riprap, can be considered on an adaptive management basis. However, riparian features should be incorporated into all bank stabilization designs to the maximum extent feasible, such as in proposals by the Corps on the Lower American River (USFWS, 1998).

(4) The U.S. Fish and Wildlife Service's HEP (Habitat Evaluation Protocol) model shall be used to ensure that there is no net loss of tidal mudflat, brackish emergent marsh, shaded riverine

aquatic cover, or riparian habitat types over the life of the project. If it becomes apparent that the habitat creation goals listed in Table 1 above may not be met, the Corps of Engineers shall promptly propose project amendments designed to meet these goals and submit these amendments to NMFS for approval.

(5) Final design of the bypasses and Napa Creek grade control structure must be reviewed and approved by NMFS to ensure that the all designs are adequate to minimize the risk of fish stranding and allow for fish passage under seasonal streamflow patterns.

(a) Qualified fishery biologists approved by CDFG or NMFS shall relocate juvenile steelhead in the Napa Creek project area to minimize impacts from project construction. The numbers and disposition of fish handled and relocated by project personnel shall be reported in the annual project report to NMFS.

References

Corps. 1998. Napa River/Napa Creek Flood Reduction Project- *Final Supplemental Environmental Impact Statement/Environmental Impact Report*. October 1998, U.S. Army Corps of Engineers Sacramento District.

Corps. 1998b. August 26, 1998 letter from Walter Yep, U.S. Army Corps of Engineers Sacramento District, to Dr. William T. Hogarth, National Marine Fisheries Service, requesting section 7 consultation under the federal Endangered Species Act.

Riley, Ann L. 1998. Restoring Streams in Cities: A Guide for Policy Makers, and Citizens . Island Press, Washington D.C./Covelo, California, 423 pp.

USFWS. 1998. Fish and Wildlife Coordination Act Report for the Sacramento Bank Protection Project, Lower American River Sites 1, 2, and 4. Prepared by U.S. Fish and Wildlife Service Sacramento Fish and Wildlife Office, for U.S. Army Corps of Engineers, Sacramento District, June, 1998.

USFWS. 1997. Revised Draft Fish and Wildlife Coordination Act Report for the Napa River Flood Damage Reduction Project. Prepared by the U.S. Fish and Wildlife Service Sacramento Fish and Wildlife Office, for U.S. Army Corps of Engineers, Sacramento District, December, 1997.

Attachment 1

Species Life History, Biological Requirements, and Population Trends- Steelhead Trout

General life history information for steelhead (*Oncorhynchus mykiss*) is summarized below, followed by more detailed information on the Central California coast steelhead ESU, including any unique life history traits as well as population trends. Further detailed information on this and other steelhead ESUs is available in the NMFS Status Review of west coast steelhead from Washington, Idaho Oregon, and California (Busby et al. 1996), the NMFS proposed rule for listing steelhead (61 FR 41541), the NMFS Status Review for Klamath Mountains Province Steelhead (Busby et al. 1994), and the NMFS final rule listing the Southern California Coast steelhead ESU, South Central California Coast steelhead ESU, and the Central California Coast steelhead ESU (62 FR 43937).

Adult freshwater migration and spawning. The most widespread run type of steelhead is the winter (ocean-maturing) steelhead, while summer (stream-maturing) steelhead (including spring and fall steelhead in southern Oregon and northern California) are less common. There is a high degree of overlap in spawn timing between populations, regardless of run-type. California steelhead generally spawn earlier than steelhead in northern areas. Both summer and winter steelhead in California generally begin spawning in December, whereas most populations in Washington begin spawning in February or March. Among inland steelhead populations, Columbia River populations from tributaries upstream of the Yakima River spawn later than most downstream populations.

The stream-maturing type enters fresh water in a sexually immature condition and requires several months in freshwater to mature and spawn. The ocean-maturing type enters fresh water with well-developed gonads and spawns shortly thereafter (Barnhart 1986).

Steelhead may spawn more than once before dying, in contrast to other species of the *Oncorhynchus* genus. It is relatively uncommon for steelhead populations north of Oregon to have repeat spawning, and more than two spawning migrations is rare. In

Oregon and California, the frequency of two spawning migrations is higher, but more than two is unusual.

Juvenile rearing and outmigration. Juvenile steelhead live in freshwater between one and four years (usually one to two years in the Pacific Southwest) and then become smolts and migrate to the sea from November through May with peaks in March, April, and May. The smolts can range from 14 to 21 cm in length. Steelhead spend between one and four years in the ocean (usually two years in the Pacific Southwest) (Barnhart 1986). Fish size appears to be positively correlated with water velocity and depth (Chapman and Bjornn 1969, Everest and Chapman 1972).

Ocean Migration. North American steelhead typically spend 2 years in the ocean before entering freshwater to spawn. The distribution of steelhead in the ocean is not well known. CWT recoveries indicate that most steelhead tend to migrate north and south along the Continental Shelf (Barnhart 1986). Steelhead stocks from the Klamath and Rogue rivers probably mix together in a nearshore ocean staging area along the northern California before they migrate upriver (Everest 1973).

Biological Requirements. The timing of upstream migration is correlated with higher flow events, such as freshets or sand bar breaches, and associated lower water temperatures. Unusual stream temperatures during spawning migration periods can alter or delay migration timing, accelerate or retard mutations, and increase fish susceptibility to diseases. The minimum stream depth necessary for successful upstream migration is 18 cm (Thompson 1972). Reiser and Bjornn (1979) indicated that steelhead preferred a depth of 24 cm or more. The maximum velocity, beyond which upstream migration is not likely to occur, of 2.4 m/second (Thompson 1972).

Steelhead spawn in cool, clear streams featuring suitable gravel size, depth, and current velocity. Intermittent streams may be used for spawning (Barnhart 1986; Everest 1973). Reiser and Bjornn (1979) found that gravels of 1.3 cm to 11.7 cm in diameter and flows of approximately 40-90 cm/second (Smith 1973) were preferred by steelhead. The survival of embryos is reduced when fines of less than 6.4 mm comprise 20 - 25% of the substrate. Studies have shown a higher survival of embryos when intragravel velocities exceed 20 cm/hour (Phillips and Campbell 1961, Coble

1961). The number of days required for steelhead eggs to hatch varies from about 19 days at an average temperature of 60° F to about 80 days at an average of 42° F. Fry typically emerge from the gravel two to three weeks after hatching (Barnhart 1986).

After emergence, steelhead fry usually inhabit shallow water along perennial stream banks. Older fry establish territories which they defend. **Streamside vegetation and cover are** essential. Steelhead juveniles are usually associated with the bottom of the stream. In smaller California streams, the water levels may drop so low during the summer that pools are the only **viable rearing habitat. No passage between pools can occur until** river levels rise with the onset of the rainy season. Therefore, juvenile steelhead rearing in isolated summer pools are extremely vulnerable to disturbance or water quality impacts. Daytime temperatures in summer rearing pools may also be near lethal levels; riparian shading and the presence of sub-surface, cold water seeps are often essential to maintain pool temperatures at tolerable levels. In winter, they become inactive and hide in any available cover, including gravel or woody debris.

The majority of steelhead in their first year of life occupy riffles, although some larger fish inhabit pools or deeper runs. Juvenile steelhead feed on a wide variety of aquatic and terrestrial insects, and emerging fry are sometimes preyed upon by older juveniles. Water temperatures influence the growth rate, population density, swimming ability, ability to capture and metabolize food, and ability to withstand disease of these rearing juveniles. Rearing steelhead juveniles prefer water temperatures of 45° to 58° F and have an upper lethal limit of 75° F.

Dissolved oxygen (DO) levels of 6.5 to 7.0 mg/L affected the migration and swimming performance of steelhead juveniles at all temperatures (Davis et. al. 1963). Reiser and Bjornn (1979) recommended that DO concentrations remain at or near saturation levels with temporary reductions no lower than 5.0 mg/L for successful rearing of juvenile steelhead. **Low DO levels** decrease the rate of metabolism, swimming speed, growth rate, food consumption rate, efficiency of food utilization, behavior, and ultimately the survival of the juveniles.

During rearing, suspended and deposited fine sediments can

directly affect salmonids by abrading and clogging gills, and indirectly cause reduced feeding, avoidance reactions, destruction of food supplies, reduced egg and alevin survival, and changed rearing habitat (Reiser and Bjornn 1979). Bell (1973) found that silt loads of less than 25 mg/L permit good rearing conditions for juvenile salmonids.

1. Central California Coast steelhead ESU - Threatened

Only winter steelhead are found in this ESU and those to the south. The relationship between anadromous and non-anadromous *O. mykiss*, including possibly residualized fish upstream from dams, is unclear.

Only two estimates of historical (pre-1960s) abundance specific to this ESU are available: an average of about 500 adults in Waddell Creek in the 1930s and early 1940s (Shapovalov and Taft 1954), and 20,000 steelhead in the San Lorenzo River before 1965 (Johnson 1964). In the mid-1960s, 94,000 steelhead adults were estimated to spawn in the rivers of this ESU, including 50,000 and 19,000 fish in the Russian and San Lorenzo rivers, respectively (CDFG 1965). Recent estimates indicate an abundance of about 7,000 fish in the Russian River (including hatchery steelhead) and about 500 fish in the San Lorenzo River. These estimates suggest that recent total abundance of steelhead in these two rivers is less than 15 percent of their abundance 30 years ago. Recent estimates for several other streams (Lagunitas Creek, Waddell Creek, Scott Creek, San Vincente Creek, Soquel Creek, and Aptos Creek) indicate individual run sizes of 500 fish or less. Steelhead in most tributaries to San Francisco and San Pablo bays have been virtually extirpated (McEwan and Jackson 1996). Fair to good runs of steelhead still apparently occur in coastal Marin County tributaries. In a 1994 to 1997 survey of 30 San Francisco Bay watersheds, steelhead occurred in small numbers at 41 percent of the sites, including the Guadelupe River, San Lorenzo Creek, Corte Madera Creek, and Walnut Creek (Leidy 1997).

Little information is available regarding the contribution of hatchery fish to natural spawning, and little information on present run sizes or trends for this ESU exists. However, given the substantial rates of declines for stocks where data do exist, the majority of natural production in this ESU is likely not self-sustaining.

References

Barnhart, R.A. 1986. Species Profiles: life histories and environmental requirements of coastal fishes and invertebrates (Pacific Southwest), steelhead. U.S. Fish Wildl. Serv. Biol. Rep. 82(11.60), 21 p.

Bell, M.C. 1973. Fisheries Handbook of Engineering Requirements and Biological Criteria. U.S. Army Corps of Engineers, Portland, OR. Contract No. DACW57-68-C-006.

Busby, P.J., T.C. Wainwright and R.S. Waples. 1994. Status review for Klamath Mountain Province steelhead. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-NWFSC-19. 130 p.

Busby, P.J., T.C. Wainwright, G.J. Bryant., L. Lierheimer, R.S. Waples, F.W. Waknitz and I.V. Lagomarsino. 1996. Status review of west coast steelhead from Washington, Idaho, Oregon and California. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-NWFSC-27. 261 p.

California Department of Fish and Game (CDFG). 1965. California Fish and Wildlife Plan, Volume I: Summary. 110 p.; Volume II: Fish and Wildlife Plans, 216 p.; Volume III: Supporting Data, 1802 p.

Chapman, D.W., and T.C. Bjornn. 1969. Distribution of salmonids in streams, with special reference to food and feeding, p. 153-176. *In*: T.G. Northcote (ed.). Symposium on Salmon and Trout in Streams. H.R. Macmillan Lectures in Fisheries. Institute of Fisheries, University of British Columbia, Vancouver, BC. 388 p.

Coble, D.W. 1961. Influence of water exchange and dissolved oxygen in redds on survival of steelhead trout embryos. Trans. Am. Fish. Soc. 90(4):469-474.

Davis, G.E., J. Foster, C.E. Warren, and P. Doudoroff. 1963.

The influence of oxygen concentration on the swimming performance of juvenile Pacific salmon at various temperatures. Trans. Am. Fish. Soc. 92(2):111-124.

Everest, F.H., and D.W. Chapman. 1972. Habitat selection and spatial interaction by juvenile chinook salmon and steelhead trout in two Idaho streams. J. Fish. Res. Board Can. 29:91-100.

Everest, F.H. 1973. Ecology and management of summer steelhead in the Rogue River. Oregon State Game Commission. Fishery Research Report 7. 48p.

Johnson, M.L. 1964. San Lorenzo River System, Santa Cruz County. Calif. Dep. Fish Game, Region 3, unpubl. file rep., 8 p. (Available from the Administrative Record for coho salmon in Scott and Waddell Creeks, Natl. Mar. Fish. Serv., Southwest Region, 501 W. Ocean Boulevard, Suite 4200, Long Beach, CA 90802-4213).

Leidy, R.A. 1997. Estuary Report June 1997. U.S. Environmental Protection Agency San Francisco Estuary Project.

McEwan, D. and T.A. Jackson. 1996. Steelhead Restoration and Management Plan for California. California Dep. Fish Game, 234 p.

Phillips, R.W. and H.J. Campbell. 1961. The embryonic survival of coho salmon and steelhead trout as influenced by some environmental conditions in gravel beds. Annual Rep. Pac. Mar. Fish. Comm. 14:60-73.

Reiser, D.W. T.C. Bjornn. 1979. Habitat requirements of anadromous salmonids. *In*: Influence of Forest and Rangeland Management on Anadromous Fish Habitat in the Western United States and Canada. W.R. Meehan, editor. U.S. Department of Agriculture Forest Service General Technical Report PNW-96.

Shapovalov, L. And A.C. Taft. 1954. The life histories of the steelhead rainbow trout (*Salmo gairdneri gairdneri)* and silver salmon (*Oncorhynchus kisutch*) with special reference to Waddell Creek, California, and recommendations regarding their management. Calif. Dep. Fish Game, Fish Bull. 98, 375

p.

Smith, A.K. 1973. Development and application of spawning velocity and depth criteria for Oregon salmonids. Trans. Ame. Fish. Soc. 10(2):312-316.

Thompson, K. 1972. Determining stream flows for fish life. In Proceedings, Instream Flow Requirement Workshop. Pacific Northwest River Basin Commission, Vancouver, WA. Pp. 31-50.

EXHIBIT F-1

ATTACHMENT 1

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
3310 El Camino Avenue, Suite 130
Sacramento, California 95821-6340

IN REPLY REFER TO:
1-1-98-F-194

April 9, 1999

Walter Yep, Chief
Planning Division
(Attn: Karen Shaffer)
U.S. Army Corps of Engineers
Sacramento District
1325 J Street
Sacramento, California 95814-2922

Subject: Formal Endangered Species Consultation on the Napa River/Napa Creek Flood Reduction Project, Napa County, California

Dear Mr. Yep:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion based on the Service's review of the proposed Napa River/Napa Creek Flood Reduction Project, and its effects on the endangered salt marsh harvest mouse (*Reithrodontomys raviventris*) (harvest mouse), the threatened delta smelt (*Hypomesus transpacificus*), and the threatened Sacramento splittail (*Pogonichthys macrolepidotus*) (splittail) in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act). The U.S. Army Corps of Engineers' (Corps) January 20, 1999, request for formal consultation was received on January 26, 1999.

This biological opinion is based on information provided in: (1) the Corps' March 1999 *Napa River/Napa Creek Flood Reduction Project Final Supplemental Environmental Impact Statement/ Environmental Impact Report* (FSEIS/R); (2) Phil Williams and Associates, Ltd., December 1997 *Conceptual Plan for Enhancement of the Alluvial Floodplains and Tidal Marshlands of the Upper Napa River Estuary* (Williams Report); (3) Chapter IV-F of Brady/LSA's August 1998 *Draft Stanley Ranch Specific Plan Environmental Impact Report*; (4) Wetlands Research Associates, Inc.'s, June 1995 (revised April 1996) *Stanley Ranch Special Status Species Surveys* (Stanley Ranch Report); (5) H.T. Harvey and Associates' September 30, 1993, *Stanley Ranch Salt Marsh Harvest Mouse Trapping Surveys*; (6) site visits attended by Service and Corps staff on December 2, 1998, and March 17, 1999; (7) the Corps' March 30, 1999, letter discussing project effects to the salt marsh harvest mouse; and

(8); additional information contained in Service files. A complete administrative record of this consultation is on file in this office.

CONSULTATION HISTORY

On August 26, 1998, the Service received the Corps' August 26, 1998, letter requesting concurrence with its determination that the proposed Napa River/Napa Creek Flood Reduction Project was not likely to adversely affect any listed and proposed threatened and endangered species. The Corps provided their July 1998 *Administrative Draft Napa River Flood Control Project FSEIS/R* as a biological assessment.

On January 26, 1999, the Service received the Corps' January 20, 1999, request for formal consultation on the proposed Napa River/Napa Creek Flood Reduction Project.

On March 8, 1999, the Service received three documents from the Corps, listed above, describing special status species' occurrence on the Stanley Ranch.

On March 16, 1999, the Service received the Corps' March 1999 *Napa River/Napa Creek Flood Reduction Project Final Supplemental Environmental Impact Statement/ Environmental Impact Report*.

On March 17, 1999, Dan Buford and Caroline Wilkinson of the Service and Karen Shaffer of the Corps attended a site visit to quantify the extent of suitable harvest mouse habitat in the South Wetlands Opportunity Area, described in the Williams Report.

On April 5, 1999, the Service received the Corps' March 30, 1999, letter providing additional information on the harvest mouse and long-term maintenance.

BIOLOGICAL OPINION

Description of the Proposed Action

The Corps will implement the preferred alternative described in the March 1999 *Napa River/Napa Creek Flood Reduction Project Final Supplemental Environmental Impact Statement/ Environmental Impact Report* (Napa River Project) to provide a 100-year level of flood protection to the City of Napa and outlying areas and restore habitat values. The proposed project encompasses the Napa River from the City of Napa downstream to the Highway 29/121 bridge overcrossing at Horseshoe Bend.

Walter Yep, Chief

The major components of the proposed project include:

- Lowering of dikes south of Imola Avenue and allowing the Napa River to flow in a wider area, thereby increasing conveyance capacity and reducing upstream water surface elevations.

- Channel modifications to create flood terraces, which would create additional capacity along the river and lower water surface elevations, while also providing valuable wetland and upland habitat. Channel widening has been developed as an alternative to the previously proposed channel deepening.

- Development of a "dry" bypass channel to bridge the Oxbow. This bypass will allow low water flows to remain in the Oxbow, thereby maintaining the Oxbow's natural characteristics, but it will divert flood flows out of the Oxbow and on a more direct route through central Napa.

- New dikes, levees, and floodwalls that will contain flood flows up to the 100-year event.

- Three pump stations that will transport water across floodwalls and levees, and into the Napa River.

- Removal and replacement of bridges in Downtown Napa. Replaced bridges would be designed with higher clearances to better pass flood flows.

- Accommodate the authorized federal navigation channel and project that extends from San Francisco Bay up the Napa River to Third Street.

The preferred alternative also includes channel modifications on Napa Creek between the Napa River and Jefferson Street. Project elements include installation of a dry bypass culvert between Jefferson and Seminary Streets, creation of a flood terrace through one-side overbank excavation between Seminary and Clinton Streets, installation of a new dry bypass culvert between Pearl and Main Streets, bank erosion protection, and removal of several existing bridges to contain flood flows up to the 100-year event within the banks of the creek.

Within the project reach, the Napa River currently supports suitable delta smelt and splittail habitat that will be temporarily impacted, including approximately 7.32 acres of brackish emergent marsh, 0.61 acre of tidal mudflats, and 0.19 acre of Shaded Riverine Aquatic (SRA) cover. In addition, the proposed project will also temporarily impact approximately 11.0 acres of suitable harvest mouse habitat on Horseshoe Bend Island. Under with-the-project conditions, most of these cover-types would also be created. The proposed project will result in the creation of 206 acres of tidal brackish marsh, 27.50 acres of tidal mudflats, and 2.57 acres of SRA cover.

According to the FSEIS/R, the Corps and the Napa County Flood Control and Water Conservation District (County) will implement "performance-based maintenance" following project construction. The Corps will monitor emergent marsh areas on the marsh plain terrace and seasonal wetlands on the flood plain terrace for 3 years to ensure that appropriate conditions exist to allow for the establishment of these habitat types. If such conditions do not exist, the Corps will undertake remedial actions and an additional 3 years of monitoring. The County will be responsible for periodic inspection, monitoring, and maintenance for the life of the project. The maintenance regime includes: (1) the development of as-built plans, cross-sections, and a hydraulic model of the floodway; (2) vegetation establishment and monitoring, partly described above; (3) hydraulic monitoring of the floodway to track sedimentation, vegetation growth, and other factors affecting conveyance of flows; (4) limited vegetation removal to maintain flood flows, including removal of woody vegetation that becomes established in the marshplain terrace; (5) erosion control measures only where erosion threatens important structures, such as floodwalls, levees, and bridge structures; (6) sediment removal within the floodway, including sediment removal within the river channel approximately once every 10 years, and within the marshplain and floodplain terraces once every 25 years; (7) a Corps prepared Operations and Maintenance Manual to be approved by environmental resource agencies and provided to the County prior to transfer of each completed contract and/or phase; and (8) and annual reports provided by the County to the Corps for the life of the project.

Status of the Species

Salt Marsh Harvest Mouse

The salt marsh harvest mouse was federally listed as endangered in 1970 (35 **FR** 1604). A detailed account of the taxonomy, ecology, and biology of the harvest mouse is presented in the approved Recovery Plan for this species (Service 1984). Supplemental information on the harvest mouse is provided below and in the Service's August 31, 1990, biological opinion on the Corps' permit application No. 15283E49, which is hereby incorporated by reference.

The harvest mouse occurs in remaining tidal marshes and suitable diked wetlands within the Bay eastward to the vicinity of Collinsville-Antioch. There are two subspecies of harvest mouse: the northern subspecies (*R.r. halicoetes*) occurs in Suisun and San Pablo Bays north of Point Pinole in Contra Costa County and Point Pedro in Marin County; the southern subspecies (*R.r. raviventris*) occurs in southern San Pablo Bay and central and southern portions of San Francisco Bay. Male harvest mice are reproductively active year-long, but primarily from April through September. Females have a long breeding season that extends from as early as March to November (Fisler 1965). However, they apparently have a low reproduction potential with an average litter from 3.72 to 4.21 (Fisler 1965). Fisler (1965) estimated that females of the northern subspecies may have only one litter per year. The southern subspecies may have similar productivity.

Harvest mice are endangered by loss of habitat, degradation of habitat quality, and fragmentation and isolation of remaining habitats. Of the 193,800 acres of tidal marsh that bordered the Bay in 1850, about 30,100 acres currently remain (Dedrick 1993). This represents an 84 percent reduction from historical conditions. Primary habitat for the harvest mouse historically was tidal pickleweed-dominated salt marsh and brackish marsh in the middle tidal marsh zone, complemented by natural creek levee vegetation (including tall, shrubby gumplants) and upland transition zones supporting vegetation cover which remains emergent even during the highest winter tides. Diking for agricultural reclamation and urban development eliminated the majority of both habitat components in the San Francisco Bay Estuary during the 19th and early 20th century. Even though other marsh conditions may be optimal, few harvest mice survive in marshes with little or no high tide escape cover.

Substantial populations of harvest mice often occupy diked salt marshes which undergo infrequent episodes of tidal flooding, and irregular periods of inundation from impounded rainwater and runoff from adjacent uplands. Populations of harvest mice in these diked salt marshes are subject to large fluctuations in numbers, with "crashes" following periods of prolonged, deep flooding. (H. Shellhammer, San Jose State University, pers. comm.). They provide, however, important refugial populations for the species because most existing salt marsh in the San Francisco Bay Estuary is geomorphically young (formed after widespread marsh diking and reclamation), and often lacks the features of mature tidal marsh that supply ample refugia from tidal flooding, such as high densities of natural channel levees and dense, tall gumplant vegetation.

Suitable salt marsh harvest mouse habitat on the project site is limited to approximately 11.0 acres of diked pickleweed on Horseshoe Bend Island. According to the Stanley Ranch Report, harvest mice have been captured on the Stanley Ranch, south of the Highway 29/121 bridge, in 1979 and 1993. According to the FSEIS/R, harvest mice have been at the southern border of the project area under the Highway 29/121 bridge.

Delta smelt

The delta smelt was federally listed as a threatened species on March 5, 1993 (58 **FR** 12854). Please refer to the Service (1993, 1994a) and Water Resources and Reclamation (1994) for additional information on the biology and ecology of this species. The delta smelt is a slender-bodied fish with a steely blue sheen on the sides, and it appears almost translucent (Moyle 1976). The delta smelt, which has a lifespan of one year, has an average length of 60 to 70 mm (about 2 to 3 inches) and is endemic to Suisun Bay upstream of San Francisco Bay through the Delta in Contra Costa, Sacramento, San Joaquin, Solano and Yolo counties, California (Figure 3). Historically, the delta smelt is thought to have occurred from Suisun Bay upstream to at least the City of Sacramento on the Sacramento River, and Mossdale on the San Joaquin River (Moyle *et al.* 1992, Sweetnam and Stevens 1993). In 1996, delta smelt were also collected in the Napa River. The delta smelt is an euryhaline species (tolerant of a wide salinity range) that spawns in fresh water and has been collected from estuarine waters up to 14 parts per thousand (ppt)

EXHIBIT F-1 ATTACHMENT 1

salinity (Moyle *et al.* 1992). For a large part of its annual life span, this species is associated with the freshwater edge of the mixing zone (saltwater-freshwater interface; also called X2), where the salinity is approximately 2 ppt (Ganssle 1966, Moyle *et al.* 1992, Sweetnam and Stevens 1993).

The delta smelt is adapted to living in the highly productive Estuary where salinity varies spatially and temporally according to tidal cycles and the amount of freshwater inflow. Despite this tremendously variable environment, the historical Estuary probably offered relatively constant suitable habitat conditions for the delta smelt because it could move upstream or downstream with the mixing zone (Moyle, pers. comm., 1993). The final rule to list the delta smelt as threatened describes in detail the factors that have contributed to this species' decline (Service 1993).

Shortly before spawning, adult delta smelt migrate upstream from the brackish-water habitat associated with the mixing zone to disperse widely into river channels and tidally-influenced backwater sloughs (Radtke 1966, Moyle 1976, Wang 1991). Migrating adults with nearly mature eggs were taken at the CVP's Tracy Pumping Plant from late December 1990 to April 1991 (Wang 1991). Spawning locations appear to vary widely from year to year (Water Resources and Reclamation 1993). Sampling of larval delta smelt in the Delta suggests spawning has occurred in the Sacramento River, Barker, Lindsey, Cache, Georgiana, Prospect, Beaver, Hog, and Sycamore sloughs, in the San Joaquin River off Bradford Island including Fisherman's Cut, False River along the shore zone between Frank's and Webb tracts, and possibly other areas (Dale Sweetnam, CDFG, pers. comm.; Wang 1991). Delta smelt also may spawn north of Suisun Bay in Montezuma and Suisun sloughs and their tributaries (Lesa Meng, Service, pers. comm.; Sweetnam, CDFG, pers. comm.).

Delta smelt spawn in shallow, fresh, or slightly brackish water upstream of the mixing zone (Wang 1991). Most spawning occurs in tidally-influenced backwater sloughs and channel edgewaters (Moyle 1976; Wang 1986, 1991; Moyle *et al.* 1992). Although delta smelt spawning behavior has not been observed in the wild (Moyle *et al.* 1992), the adhesive, demersal eggs are thought to attach to substrates such as cattails, tules, tree roots, and submerged branches (Moyle 1976, Wang 1991).

DELTA SMELT DEC TO? APRIL

The spawning season varies from year to year, and may occur from late winter (December) to early summer (July). Moyle (1976) collected gravid adults from December to April, although ripe delta smelt were most common in February and March. In 1989 and 1990, Wang (1991) estimated that spawning had taken place from mid-February to late June or early July, with peak spawning occurring in late April and early May. A recent study of delta smelt eggs and larvae (Wang and Brown 1994 as cited in Water Resources and Reclamation 1994) confirmed that spawning may occur from February through June, with a peak in April and May. Spawning has been reported to occur at water temperatures of about 7° to 15° C. Results from a University of California at Davis (UCD) study (Swanson and Cech 1995) indicate that although delta smelt tolerate a wide range of temperatures (<8° C to >25° C), warmer water temperatures restrict their distribution more than colder water temperatures.

Laboratory observations indicate that delta smelt are broadcast spawners that spawn in a current, usually at night, distributing their eggs over a local area (Lindberg 1992 and Mager 1993 as cited in Water Resources and Reclamation 1994). The eggs form an adhesive foot that appears to stick to most surfaces. Eggs attach singly to the substrate, and few eggs were found on vertical plants or the sides of a culture tank (Lindberg 1993 as cited in Water Resources and Reclamation 1994).

Delta smelt eggs hatched in 9 to 14 days at water temperatures ranging from 13° to 16° C during laboratory observations in 1992 (Mager 1992 as cited in Sweetnam and Stevens 1993). In this study, larvae began feeding on phytoplankton on day four, rotifers on day six, and *Artemia nauplii* at day 14. In laboratory studies, yolk-sac fry were found to be positively phototaxic, swimming to the lightest corner of the incubator, and negatively buoyant, actively swimming to the surface. The post-yolk-sac fry were more evenly distributed throughout the water column (Lindberg 1992 as cited in Water Resources and Reclamation 1994). After hatching, larvae and juveniles move downstream toward the mixing zone where they are retained by the vertical circulation of fresh and salt waters (Stevens *et al.* 1990). The pelagic larvae and juveniles feed on zooplankton, which typically shows highest densities in the mixing zone. When the mixing zone is located in Suisun Bay where there is extensive shallow water habitat within the euphotic zone (depths less than four meters), high densities of phytoplankton and zooplankton may accumulate (Arthur and Ball 1978, 1979, 1980). The introduction of the Asian clam, a highly efficient filter feeder, presently reduces the concentration of phytoplankton in this area. In general, Estuaries are among the most productive ecosystems in the world (Goldman and Horne 1993).

Observations of delta smelt swimming in a swimming flume and in a large tank show that these fish are unsteady, intermittent, slow-speed swimmers (Swanson and Cech 1995). At low velocities in the swimming flume (<3 body lengths per second), and during spontaneous, unrestricted swimming in a 1 m tank, delta smelt consistently swam with a "stroke and glide" behavior. This type of swimming is very efficient; Weihs (1974) predicted energy savings of about 50 percent for "stroke and glide" swimming compared to steady swimming. However, the maximum speed delta smelt are able to achieve using this preferred mode of swimming, or gait, was less than 3 body lengths per second, and the fish did not readily or spontaneously swim at this or higher speeds (Swanson and Cech 1995). Although juvenile delta smelt appear to be stronger swimmers than adults, forced swimming at 3 body lengths per second in a swimming flume was apparently stressful; the fish were prone to swimming failure and extremely vulnerable to impingement (Swanson and Cech 1995). Unlike fish, for which this type of measurement has been made in the past, delta smelt swimming performance was limited by behavioral rather than physiological or metabolic constraints *(e.g.,* metabolic scope for activity; Brett 1976).

Adult delta smelt spawn in central Delta sloughs from February through August in shallow water areas having submersed aquatic plants and other suitable substrates and refugia. These shallow water areas have been identified in the draft Delta Native Fishes Recovery Plan (Service 1994d) as essential to the long-term survival and recovery of delta smelt and other resident fish. A no net loss strategy for these areas is proposed in this Recovery Plan.

The delta smelt is adapted to living in the highly productive Estuary where salinity varies spatially and temporally according to tidal cycles and the amount of freshwater inflow. Despite this tremendously variable environment, the historical Estuary probably offered relatively consistent spring transport flows that moved delta smelt juveniles and larvae downstream to the mixing zone (Peter Moyle, UCD, pers. comm.). Since the 1850's, however, the amount and extent of suitable habitat for the delta smelt has declined dramatically. The advent in 1853 of hydraulic mining in the Sacramento and San Joaquin rivers led to increased siltation and alteration of the circulation patterns of the Estuary (Nichols *et al.* 1986, Monroe and Kelly 1992). The reclamation of Merritt Island for agricultural purposes, in the same year, marked the beginning of the present-day cumulative loss of 94 percent of the Estuary's tidal marshes (Nichols *et al.* 1986, Monroe and Kelly 1992).

In addition to the degradation and loss of estuarine habitat, the delta smelt has been increasingly subject to entrainment, upstream or reverse flows of waters in the Delta and San Joaquin River, and constriction of low salinity habitat to deep-water river channels of the interior Delta (Moyle *et al.* 1992). These adverse conditions are primarily a result of drought and the steadily increasing proportion of river flow being diverted from the Delta by the CVP and SWP (Monroe and Kelly 1992). Figure 7 shows the relationship between the portion of the delta smelt population west of the Delta as sampled in the summer townet survey and the natural logarithm of Delta outflow from 1959 to 1988 (Water Resources and Reclamation 1994). This relationship indicates that the summer townet index increased dramatically when outflow was between 34,000 and 48,000 cfs, placing X2 between Chipps and Roe islands. Placement of X2 at Chipps and Roe islands would duplicate these favorable conditions.

Sacramento Splittail

The Sacramento splittail (*Pogonichthys macrolepidotus*) was federally listed as threatened on March 8, 1999 (64 **FR** 25). Please refer to the Service (1994a, 1994d, 1995), and Water Resources and Reclamation (1994) for additional information on the biology and ecology of the splittail.

The splittail is a large cyprinid that can reach greater than 12 inches in length (Moyle 1976). Adults are characterized by an elongated body, distinct nuchal hump, and a small blunt head with barbels usually present at the corners of the slightly subterminal mouth. This species can be distinguished from other minnows in the Central Valley of California by the enlarged dorsal lobe of the caudal fin. Splittail are a dull, silvery-gold on the sides and olive-grey dorsally. During the spawning season, the pectoral, pelvic and caudal fins are tinged with an orange-red color. Males develop small white nuptial tubercles on the head.

Splittail are endemic to California's Central Valley where they were once widely distributed in lakes and rivers (Moyle 1976). Historically, splittail were found as far north as Redding on the Sacramento River and as far south as the site of Friant Dam on the San Joaquin River (Rutter 1908). Rutter (1908) also found splittail as far upstream as the current Oroville Dam site on the

Feather River and Folsom Dam site on the American River. Anglers in Sacramento reported catches of 50 or more splittail per day prior to damming of these rivers (Caywood 1974). Splittail were common in San Pablo Bay and Carquinez Strait following high winter flows until about 1985 (Messersmith 1966, Moyle 1976, and Wang 1986 as cited in Department and Reclamation 1994).

In recent times, dams and diversions have increasingly prevented upstream access to large rivers and the species is restricted to a small portion of its former range (Moyle and Yoshiyama 1989). Splittail enter the lower reaches of the Feather (Jones and Stokes 1993) and American rivers (Charles Hanson, State Water Contractors, *in litt.*, 1993) on occasion, but the species is now largely confined to the Delta, Suisun Bay, and Suisun Marsh (Service 1994a). Stream surveys in the San Joaquin Valley reported observations of splittail in the San Joaquin River below the mouth of the Merced River and upstream of the confluence of the Tuolumne River (Saiki 1984 as cited in Water Resources and Reclamation 1994).

Splittail are long-lived, frequently reaching five to seven years of age. Generally, females are highly fecund, producing over 100,000 eggs each year (Daniels and Moyle 1983). Populations fluctuate annually depending on spawning success. Spawning success is highly correlated with freshwater outflow and the availability of shallow-water habitat with submersed, aquatic vegetation (Daniels and Moyle 1983). Splittail usually reach sexual maturity by the end of their second year at which time they have attained a body length of 180 to 200 mm. There is some variability in the reproductive period because older fish reproduce before younger individuals (Caywood 1974). The largest recorded individuals of the splittail have measured between 380 and 400 mm (Caywood 1974, Daniels and Moyle 1983). Adults migrate into fresh water in late fall and early winter prior to spawning. The onset of spawning is associated with rising water temperature, lengthening photoperiod, seasonal runoff, and possibly endogenous factors from the months of March through May, although there are records of spawning from late January to early July (Wang 1986). Spawning occurs in water temperatures from 9° to 20° C over flooded vegetation in tidal freshwater and euryhaline habitats of estuarine marshes and sloughs, and slow-moving reaches of large rivers. The eggs are adhesive or become adhesive soon after contacting water (Caywood 1974, and Bailey, UCD, pers. comm., 1994, as cited in Water Resources and Reclamation 1994). Larvae remain in shallow, weedy areas close to spawning sites and move into deeper water as they mature (Wang 1986).

Splittail
Jan - July
March - May

Splittail are benthic foragers that feed on opossum shrimp, although detrital material makes up a large percentage of their stomach contents (Daniels and Moyle 1983). Earthworms, clams, insect larvae, and other invertebrates are also found in the diet. Predators include striped bass and other piscivores. Splittail are sometimes used as bait for striped bass.

Splittail can tolerate salinities as high as 10 to 18 ppt (Moyle 1976, Moyle and Yoshiyama 1992). Splittail are found throughout the Delta (Turner 1966), Suisun Bay, and the Suisun and Napa marshes. They migrate upstream from brackish areas to spawn in freshwater. Because they

require flooded vegetation for spawning and rearing, splittail are frequently found in areas subject to flooding.

The 1985 to 1992 decline in splittail abundance is concurrent with hydrologic changes to the Estuary. These changes include increases in water diversions during the spawning period from January through July. Diversions, dams and reduced outflow, coupled with severe drought years, introduced aquatic species, and loss of wetlands and shallow-water habitat have reduced the species' capacity to reverse its decline (Moyle *et. al.* 1992). Please refer to 59 FR 862 and Department and Reclamation (1994) for additional information on the biology and ecology of the splittail.

Splittail have experienced a decline in population as a result of hydrologic changes in the Estuary and loss of shallow water habitat due to dredging and filling. Additional changes include increases in water diversions during the spawning period of January through July. Most of the factors that caused delta smelt to decline have also caused the decline of splittail. These factors include (1) diversions, (2) dams and (3) reduced outflow, coupled with (4) severe drought years, (5) introduced aquatic species such as the Asiatic clam (Nichols *et al.* 1990), and (6) loss of wetlands and shallow-water habitat (CDFG 1992) and appear to have perpetuated the species' decline.

Effects of the Proposed Action

Salt marsh harvest mouse

The Napa River/Napa Creek Flood Reduction Project is likely to result in injury or death, and harm to individual harvest mice through the temporary loss of their habitat. According to the Williams Report, Horseshoe Bend Island will be restored to intertidal marsh by breaching the existing levee in the southeastern corner of the island. Based upon the habitat projections in the Williams Report, the area of the Island presently supporting 11.0 acres of suitable harvest mouse habitat is likely to be converted to *Scirpus* dominated marsh within the first year after the breach. It will likely take many years for suitable harvest mouse habitat to become established at higher elevations, resulting in a temporal loss of habitat. Breaching of levees on Horseshoe Bend Island and the western shore of the Napa River will result in the creation of approximately 206 acres of tidal brackish marsh, a portion of which will support suitable harvest mouse habitat. Harvest mice are likely to become established in restored suitable habitats from populations immediately south of the restoration area.

Following the successful reintroduction of harvest mice, the proposed project could result in injury or death, and harm to individual harvest mice as a result of necessary remedial actions and long-term maintenance activities of the marshplain and floodplain terraces, including vegetation and sediment removal. The scale of the maintenance activities were not clearly defined nor was the extent of future habitat impacts quantified. Therefore, the Service anticipates that no more

than 5 acres of suitable salt marsh harvest mouse habitat will be temporarily impacted during any one year.

Delta smelt and Sacramento splittail

Even though this project is designed to protect and restore habitat and is not expected to result in any long-term loss of habitat, there are some unavoidable, short-term impacts related to construction of this project that may result in direct, indirect, and cumulative effects on delta smelt and splittail.

Direct Effects

The proposed project is designed to protect and restore habitat and is not expected to result in any long-term loss of habitat. However, there are some unavoidable, short-term impacts related to the construction of this project that will impact suitable delta smelt and splittail habitat. Within the project reach, the Napa River currently supports suitable delta smelt and splittail habitat that will be temporarily impacted, including approximately 7.32 acres of brackish emergent marsh, 0.61 acre of tidal mudflats, and 0.19 acre of Shaded Riverine Aquatic (SRA) cover. However, the proposed project will restore approximately 31 acres of brackish emergent/tidal marsh, 27 acres of tidal mudflats, and 3 acres of SRA cover in an area that is a known spawning site for delta smelt and splittail. Therefore, this project meets the recovery objective to restore floodplain habitat that is stated in the Recovery Plan for Delta Fishes for spawning and rearing for delta smelt and splittail.

Direct effects encompass the direct or immediate effect of the project on the species or its habitat. These direct effects on delta smelt and splittail include, but are not limited to, harassment, displacement, and mortality that may occur during the construction of the lowered dikes, creation of flood terraces, construction of the "dry" bypass, and the creation of the new dikes, levees, and floodplain habitat. Hard fixes will be used at some of the restoration sites and would affect delta smelt and splittail habitat by the excavation and placement of the rock revetment through removal of aquatic vegetation and shallow water habitat. The use of this traditional bank protection method eliminates the long-term functional values of natural banks due to the absence of natural sediments, woody debris, and riparian plants that would be likely to accumulate. Rock revetment produces a rock-water interface which often fails to provide overhanging vegetation and in-stream woody debris that are key attributes of SRA, a unique habitat type. SRA provides variable habitat, shade, and food items for in-stream biota. Loss of SRA habitat can contribute to the decline of fish and wildlife species, such as delta smelt and splittail.

Delta smelt and splittail could be harassed, harmed, or killed by construction equipment, noise, or siltation and impaired water quality. Mortality may occur to the fish if they are present at the proposed site. Delta smelt and splittail adults could arrive in the proposed project area as early as January and may continue to linger in the area until late August. However, depending on water conditions, the two species have remained in the Napa River for a longer period of time.

Juvenile and larvae delta smelt also may be present in the proposed project area from March 1 through late August. Because the fish are known to be in the proposed construction area, delta smelt and splittail could be harassed or harmed during construction.

Indirect Effects

Indirect effects are those that are caused by the proposed project and are later in time, but are still reasonably certain to occur. As stated previously, the restoration of floodplain habitat is an important recovery objective for both species of fish and when the restoration is complete, could provide suitable habitat for spawning and rearing.

Indirect effects include, but are not limited to, changes in hydrology due to the placement of the rock revetment. This could cause a shift in distribution of the fish, altering their normal behavior and migratory patterns. The rock revetment could displace the fish and send them in different directions. These structures are also known to attract and provide habitat for predatory fish that will prey upon the delta smelt and splittail. With the removal of vegetation, there is no cover for smelt or splittail. Therefore, they become easy prey for the larger fish.

During construction, the movements of heavy equipment could release toxins that have been bound in the sediments for years. These toxins could have an immediate or delayed lethal or sub-lethal affect on various fish life stages and may also affect the reproductive success of the fish. Submerged aquatic vegetation, which is good spawning habitat, may also be negatively affected by the toxic substances.

As stated in the project description, performance-based maintenance will follow the construction of the project. However, the scale of the maintenance activities were not clearly defined nor was the extent of future habitat impacts quantified. Therefore, the Service anticipates that no more than 5 linear feet of suitable delta smelt and Sacramento splittail habitat will be temporarily impacted during any one year.

Cumulative effects

Cumulative effects include the effects of future State, Tribal, local, or private actions affecting listed species that are reasonably certain to occur in the area considered in this biological opinion. Future Federal actions not related to this proposed action are not considered in determining the cumulative effects, but are subject to separate consultation requirements pursuant to section 7 of the Act.

One of the most serious cumulative effects on the harvest mouse has been the degradation of diked wetlands, typically by the elimination of wetland vegetation by grazing, discing, grubbing, and plowing, and/or the elimination of appropriate hydrologic conditions by installing drains,

ditches, and pumps. The extensive conversion of South Bay salt marshes to brackish and freshwater habitat also has appreciably reduced available tidal habitat for this species.

Cumulative effects on the delta smelt and splittail include any continuing or future non-Federal diversions of water that may entrain adult or larval fish or that may decrease outflows incrementally, thus shifting the position of the delta smelt's preferred habitat upstream. Water diversions through intakes serving numerous small, private agricultural lands and duck clubs in the Delta, upstream of the Delta, and in Suisun Bay contribute to these cumulative effects. These diversions also include municipal and industrial uses, as well as providing water for power plants. State or local levee maintenance may also destroy or adversely modify habitat by disturbing spawning or rearing habitat. Delta smelt adults seek shallow, tidally influenced, fresh water (*i.e.*, less than 2 ppt salinity) backwater sloughs and edgewaters for spawning. To assure egg hatching and larval viability, spawning areas also must provide suitable water quality (*i.e.*, low concentrations of contaminants) and substrates for egg attachment (*e.g.*, submerged tree roots, branches, emergent vegetation). Suitable water quality must be provided by addressing point sources of contaminants so that maturation is not impaired by pollutant concentrations. Levee maintenance disturbs spawning and rearing habitat, and resuspends contaminants into these waters.

Additional cumulative effects result from the impacts of point and non-point source chemical contaminant discharges. These contaminants include selenium and numerous pesticides and herbicides associated with discharges related to agricultural and urban activities. Implicated as potential sources of mortality for delta smelt and splittail, these contaminants may adversely affect delta smelt and splittail reproductive success and survival rates. Spawning habitat may also be affected if submersed aquatic plants used as substrates for adhesive egg attachment are lost due to toxic substances.

The introduction of exotic species may occur when the levees are breached or when separate creeks or river systems are reconnected during various projects. Several exotic species may adversely affect the delta smelt and splittail, including the Asian clam and three non-native species of euryhaline copepods. The Asian clam could potentially play an important role in affecting the phytoplankton dynamics. The exotic copepods may displace native species and at least one species of copepod (*Sinocalanus doerri*) is difficult for larval fishes to catch because of its fast swimming and effective escape response. Reduced feeding efficiency and ingestion rates weaken and slow the growth of young and make them more vulnerable to starvation and predation.

Other cumulative effects could include: wave action in the water channel caused by boats may degrade riparian and wetland habitat and erode banks; the dumping of domestic and industrial garbage may present hazards to the fish because they could become trapped in the debris, injure themselves, or ingest the debris; golf courses reduce habitat and introduce pesticides and herbicides into the environment; oil and gas development and production remove habitat and may introduce pollutants into the delta; agricultural uses on levees reduce riparian and wetland

habitats; residential or agricultural land use can fragment and reduce wildlife habitat and corridors; unscreened agricultural diversions throughout the delta divert all life stages of the fish (Service 1996); and grazing activities may degrade or reduce suitable habitat.

Conclusion

After reviewing the current status of the salt marsh harvest mouse, delta smelt, and splittail, the environmental baseline, the effects of the proposed project, and the cumulative effects, it is the Service's biological opinion that the proposed Napa River/Napa Creek Flood Reduction Project is not likely to jeopardize the continued existence of the harvest mouse, delta smelt, and splittail.

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 species, respectively, without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as actions that create the likelihood of injury to listed species by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns, including 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 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 applicant, 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 require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

Amount or Extent of Take

For the harvest mouse, we anticipate incidental take will be difficult to detect because of the variable, unknown size of the resident population over time, and the difficulty in finding killed or injured small mammals. Due to the difficulty in quantifying the number of harvest mice that will be taken as a result of the proposed action, we are quantifying incidental take as the number of

acres of habitat that will be lost. We anticipate harvest mice may be killed, harmed, or harassed by heavy equipment, and habitat loss or alteration. We anticipate an unquantifiable number of harvest mice may be killed, harmed, or harassed as a result of the temporary loss of no more than 11.0 acres of suitable harvest mouse habitat on Horseshoe Bend Island. In addition, an unquantifiable number of harvest mice may be killed, harmed, or harassed as a result of the temporary loss of 5 acres of suitable harvest mouse habitat associated with proposed future maintenance and remediation activities.

The Service anticipates that incidental take of delta smelt and splittail will be difficult to detect for the following reasons: the small size of delta smelt and splittail eggs and larvae; their occurrence in aquatic habitat that make them difficult to detect; and the low likelihood of finding dead or impaired specimens. Due to the difficulty in quantifying the number of delta smelt and splittail that will be taken as a result of the proposed action, the Service is quantifying take incidental to the project in terms of acres of habitat that will become unsuitable for the species as a result of the action. Therefore, the Service estimates that 7.32 acres of brackish emergent marsh habitat, 0.61 acre of tidal mudflats, and 0.19 acre of SRA habitat will become unsuitable as a result of the proposed project. In addition, an unquantifiable number of delta smelt and Sacramento splittail may be killed, harmed, or harassed as a result of the temporary loss of 5 linear feet of suitable delta smelt and Sacramento splittial habitat associated with proposed future maintenance and remediation activities. The Service has developed the following incidental take statement based on the premise that the reasonable and prudent measures will be implemented. Upon implementation of the following reasonable and prudent measures, incidental take associated with the Napa River/Napa Creek Flood Reduction Project in the form 7.32 acres of brackish emergent marsh habitat, 0.61 acre of tidal mudflats, and 0.19 acre of SRA habitat of harm, harassment, or mortality on will become exempt from the prohibitions described under section 9 of the Act.

The Service anticipates that incidental take of delta smelt and Sacramento splittail will be difficult to detect for the following reasons: the small size of delta smelt and Sacramento splittail eggs and larvae; their occurrence in aquatic habitat that make them difficult to detect; and the low likelihood of finding dead or impaired specimens. Due to the difficulty in quantifying the number of delta smelt and Sacramento splittail that will be taken as a result of the proposed action, the Service is quantifying take incidental to the project in terms of acres of habitat that will become unsuitable for the species as a result of the action. Therefore, the Service estimates that 300 square feet of shallow water habitat will become unsuitable as a result of the proposed project. The Service has developed the following incidental take statement based on the premise that the reasonable and prudent measures will be implemented. Upon implementation of the following reasonable and prudent measures, incidental take associated with the project in the form of harm, harassment, or mortality on 300 square feet of shallow water habitat will become exempt from the prohibitions described under section 9 of the Act.

Reasonable and Prudent Measures

The Service believes the following reasonable and prudent measure is necessary and appropriate to minimize incidental take of the harvest mouse, delta smelt, and splittail:

1. The potential for harassment, harm, injury and mortality to the harvest mouse, delta smelt and splittail shall be minimized.

Terms and Conditions

To be exempt from the prohibitions of section 9 of the Act, the Corps must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measure described above:

The following terms and conditions implement the reasonable and prudent measure stated above:

1. The Corps' and County's Operations and Maintenance Manuals, described above, shall be reviewed and approved by the Service prior to implementation.

2. Future Corps and County maintenance activities and remedial actions that have the potential to impact suitable habitat for harvest mouse, delta smelt, and splittail shall be reviewed and approved by the Service prior to implementation.

3. The Corps and the County shall prepare and implement a detailed harvest mouse habitat restoration and monitoring plan which compensates for the loss of 11 acres of habitat for the harvest mouse in the project area. The final restoration plan shall provide for no less than a 2:1 replacement on an area basis, or 22 acres, of any harvest mouse habitat lost in the project area. The plan shall provide, but not be limited to, specific performance standards, monitoring methods and requirements, and contingency measures for habitat to be restored and managed for the harvest mouse. The final restoration plan must be submitted to the Service for review and approval prior to initiation of any project work.

4. Any in-water work shall be conducted within the August 1 to November 30 work window.

5. The use of siltation devices should be employed, during any in-water work, to reduce the mobilization of sediments and associated contaminants.

6. Stockpiling of construction materials, including portable equipment, vehicles and supplies, including chemicals, will be restricted to the designated construction staging areas and exclusive of the wetland avoidance areas.

7. Refueling of construction equipment and vehicles within the leveed floodway will only occur within a designated, paved, bermed area where possible spills will be readily contained.

8. Equipment wash-down will not occur within the leveed floodway.

9. Equipment and vehicles operated within the leveed floodway shall be checked and maintained daily to prevent leaks of fuels, lubricants or other fluids to the river.

10. Litter and construction debris shall be removed from below the ordinary high water (OHW) line daily, and disposed of at an appropriate site.

11. Any spills of hazardous materials within delta smelt habitat shall be cleaned up immediately. Such spills shall be reported in post-construction compliance reports.

12. The Corps and the County shall prepare and implement a detailed fish monitoring plan to assess if the restoration project meets one of its objectives, to provide habitat for fish. The plan shall provide, but not be limited to, specific performance standards, monitoring methods and requirements, and contingency measures for habitat to be restored and managed for delta smelt and splittail. The final restoration plan must be submitted to the Service for review and approval prior to initiation of any project work.

Reporting Requirements

We shall be notified within twenty-four (24) hours of the finding of any injured or dead listed and proposed species, or any unanticipated harm to their habitat addressed in this biological opinion. Notification must include the date, time, and precise location of the specimen/incident, and any other pertinent information. The Service contact person is the Chief, Endangered Species Division in the Sacramento Fish and Wildlife Office (916-979-2725). Any dead or injured specimen shall be preserved according to standard museum practices and deposited at an appropriate academic institution approved by the Service, or with the Service's Division of Law Enforcement, 3310 El Camino Avenue, Suite 140, Sacramento, California 95821-6340 (916-979-2987). Any killed delta smelt and splittail that have been taken shall be properly preserved in accordance with Natural History Museum of Los Angeles County policy of accessioning (10% formalin in quart jar or freezing). Information concerning how the fish was taken, length of the interval between death and preservation, the water temperature and outflow/tide conditions, and any other relevant information shall be written on 100% rag content paper with permanent ink and included in the container with the specimen. Any killed harvest mice shall be placed in a sealed plastic bag and frozen. Information concerning how the individual was taken, length of the interval between death and preservation, the date, time, and

precise location it was taken, and any other relevant information shall be written on 100% rag content paper with permanent ink and included in the container with the specimen.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species and the ecosystems upon which they depend. 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. The Service recommends that the Corps develop procedures that minimize delta smelt, splittail, and harvest mouse habitat disturbance during various maintenance activities.

2. The Service recommends that the Corps develop procedures that minimize the effects of all other in-water activities on delta smelt and splittail.

3. The Service recommends that the Corps develop and implement restoration measures in areas designated in the Delta Fishes Recovery Plan, such as Prospect Island, and Liberty Island, and in the California Clapper Rail and Salt Marsh Harvest Mouse Recovery Plan.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION - CLOSING STATEMENT

This concludes formal consultation on the proposed Napa River/Napa Creek Flood Reduction Project. As provided in 50 CFR 402.16, re-initiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the proposed action 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 listed species or critical habitat that was not considered in this opinion; or (4) a new species or critical habitat is designated that may be affected by the proposed action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending re-initiation.

EXHIBIT F-1 **ATTACHMENT 1**

If you have any questions regarding this biological opinion, please contact Stephanie Brady (fish), Dan Buford (harvest mouse), or Ken Sanchez of my staff at (916) 979-2752.

Sincerely,

Cay C. Goude

Cay C. Goude
Acting Field Supervisor

cc: PARD (ES), Portland OR
NMFS, Santa Rosa, CA
SFBRWQCB, Oakland, CA

Literature Cited

Arthur, J.F. and M.D. Ball 1980. The significance of the entrapment zone location to the phytoplankton standing crop in the San Francisco Bay-Delta Estuary. U.S. Dept. Interior, Water and Power Resources Service.

Arthur, J.F. and M.D. Ball 1979. Factors influencing the entrapment of suspended material in the San Francisco Bay-Delta Estuary. Pages 143-174 *in* T.J. Conomos, editor. Pacific Division, Amer. Assoc. Advance. Sci., San Francisco, California.

Arthur, J.F. and M.D. Ball 1978. Entrapment of suspended materials in the San Francisco Bay-Delta Estuary. U.S. Dept. Interior, Bureau of Reclamation, Sacramento, California.

Brett, J.R. 1976. Scope for metabolism and growth of sockeye salmon, *Oncorhynchus nerka*, and some related energetics. J. Fish. Res. Bd. Can. 33:307-313.

Caywood, M.L. 1974. Contributions to the Life History of the Splittail *Pogonichthys macrolepidotus* (Ayres). M.S. Thesis, California State U., Sacramento. 77 pp.

Daniels, R.A. and P.B. Moyle 1983. Life history of splittail (Cyprinidae: *Pogonichthys macrolepidotus*) in the Sacramento-San Joaquin Estuary. Fishery Bulletin 84-3:647-654.

Dedrick, K. 1993. San Francisco Bay tidal marshland acreages: recent and historic values. In O.T. Magoon (ed.): Proceedings of the Sixth Symposium on Coastal and Ocean Management (Coastal Zone '89). Charleston, South Carolina, July 11-14, 1989. Publ. by Am. Society of Civil Eng.

Department of Water Resources and U.S. Bureau of Reclamation, Mid-Pacific Region 1993. Effects of the Central Valley Project and State Water Project on delta smelt. 134 pp.

Department of Water Resources and U.S. Bureau of Reclamation, Mid-Pacific Region 1994. Effects of the Central Valley Project and State Water Project on delta smelt and Sacramento splittail. 230 pp.

Fisler, G.F. 1965. Adaptations and speciation in harvest mice of the marshes of San Francisco Bay. University of California Publications in Zoology, Volume 77. University of California Press, Berkeley, CA. 108 pp.

Ganssle, D. 1966. Fishes and decapods of San Pablo and Suisun bays. Pp.64-94 *in* D.W. Kelley, ed.: Ecological studies of the Sacramento-San Joaquin Estuary, Part 1. Calif. Dept. Fish and Game, Fish Bulletin No. 133.

Goldman, C.R. and A.J. Horne 1983. Limnology. McGraw-Hill Book Company, New York, New York.

Messersmith, J.D. 1966. Fishes collected in Carquinez Straight in 1961-1962. Pages 57-62 *in*: D.W. Kelly, editor. Ecological Studies of the Sacramento-San Joaquin Estuary, Part 1. Calif. Dept. Fish and Game, Fisheries Bulletin 133.

Monroe, M.W. and J. Kelly 1992. State of the Estuary: A report on conditions and problems in the San Francisco Bay/Sacramento-San Joaquin Delta Estuary. San Francisco Estuary Project, Oakland, California.

Moyle, P.B. 1976. Inland Fishes of California. University of California Press, Berkeley, California. 405 pp.

Moyle, P. B., B. Herbold, D. E. Stevens, and L. W. Miller 1992. Life history and status of delta smelt in the Sacramento-San Joaquin Estuary, California. Trans. Am. Fish. Soc. 121:67-77.

Moyle, P.B. and R. M. Yoshiyama 1992. Fishes, aquatic diversity management areas, and endangered species. A plan to protect California's native aquatic biota. Draft report prepared for California Policy Seminar, University of California, Berkeley, California. July 1992. 196 pp.

National Marine Fisheries Service 1993. Biological opinion for the operation of the Federal Central Valley Project and the California State Water Project. February 12, 1993. 81 pages plus attachments.

National Marine Fisheries Service 1995. Amendment to the February 12, 1993, biological opinion for the operation of the Federal Central Valley Project and the California State Water Project. May 17, 1995. 13 pages.

Nichols, F.H., J.E. Cloern, S.N. Luoma, and D.H. Peterson 1986. The modification of an Estuary. Science 231:567-573.

Radtke, L. D. 1966. Distribution of smelt, juvenile sturgeon, and starry flounder in the Sacramento-San Joaquin Delta. Pp. 115-119 in J. L. Turner and D. W. Kelley, eds.: Ecological studies of the Sacramento-San Joaquin Estuary, Part 2. California Department of Fish and Game Fish Bulletin No. 136.

Rutter, C. 1908. The fishes of the Sacramento-San Joaquin basin, with a study of their distribution and variation. Bulletin of U.S. Bureau of Fisheries 27(637):103-152.

Stevens, D. E., S. W. Miller, and B. C. Bolster 1990. Report to the Fish and Game Commission: A status review of the delta smelt (*Hypomesus transpacificus*) in California. California Department of Fish and Game Candidate Species Status Rept. 90-2. 149 pages.

Swanson, C. And J. J. Cech, Jr. 1995. Environmental tolerances and requirements of the delta smelt, *Hypomesus transpacificus*. Final Report. 77 pp.

Sweetnam, D.A. and D.E. Stevens 1993. Report to the Fish and Game Commission: A status review of the delta smelt (*Hypomesus transpacificus*) in California. Candidate Species Status Report 93-DS. 98 pages plus appendices.

Turner, J.L. and D.W. Kelley 1966. Ecological studies of the Sacramento-San Joaquin Delta. Calif. Dept. Fish and Game Bulletin No. 136.

U.S. Fish and Wildlife Service. 1984. Salt marsh harvest mouse and California clapper rail recovery plan. Portland, Oregon. 141 pp.

U.S. Fish and Wildlife Service 1994. Formal consultation on the 1994 operation of the Central Valley Project and State Water Project: Effects on delta smelt. 34 pages, plus figures.

U.S. Fish and Wildlife Service 1995. Formal consultation and conference on the effects of long-term operation of the Central Valley Project and State Water Project on the threatened delta smelt, delta smelt critical habitat, and proposed threatened Sacramento splittail. 52 pages, plus figures and attachment.

U.S. Fish and Wildlife Service 1996. Sacramento-San Joaquin Delta Native Fishes Recovery Plan. U.S. Fish and Wildlife Service, Portland, Oregon.

Wang, J.C.S. 1986. Fishes of the Sacramento-San Joaquin estuary and adjacent waters, California: A guide to the early life histories. Interagency Ecological Study Program for the Sacramento-San Joaquin Estuary. Tech. Rept. 9.

Wang, J.C.S. 1991. Early life stages and early life history of the delta smelt, *Hypomesus transpacificus*, in the Sacramento-San Joaquin Estuary, with comparison of early life stages of the longfin smelt, *Spirinchus thaleichthys*. Interagency Ecological Studies Program for the Sacramento-San Joaquin Estuary. Tech. Rept. 28.

Weihs, D. 1974. Energetic advantages of burst swimming of fish. J. Theor. Bio. 48:215-229.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 99-074

WASTE DISCHARGE REQUIREMENTS FOR:

THE U.S. ARMY CORPS OF ENGINEERS AND THE NAPA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, NAPA RIVER/ NAPA CREEK FLOOD PROTECTION PROJECT, NAPA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, hereinafter the Board, finds that:

General Findings

1. The U.S. Army Corps of Engineers (Corps) and the Napa County Flood Control and Water Conservation District (NCFCWCD), hereinafter the Dischargers, propose to implement the Napa River/Napa Creek Flood Protection Project (Project) along 6.9 miles of the Napa River and 0.67 miles of Napa Creek in Napa County (see Figures 1 and 2). The Dischargers applied for Waste Discharge Requirements on July 22, 1999. The primary purpose of the Project is to provide an economically feasible and environmentally sensitive method to protect the City of Napa from the computed 100-year storm event.

   The Project will achieve flood protection and habitat enhancement by using environmentally beneficial methods such as the creation of wetlands, marshplain and floodplain terraces, selective removal of existing levees and use of open space as the floodway, setback levees, bypass channels and biotechnical bank stabilization. Environmentally damaging measures such as deepening the River by excessive dredging will be avoided.

   Approximately 1.7 million cubic yards of material will be excavated to create the marshplain and floodplain terraces. The majority of this material (1.14 million cubic yards) will be dry soil, excavated from above tidal action elevations. 0.56 million cubic yards is assumed to be wet, with varying degrees of moisture content, from low to saturated.

2. The Project was developed by a two year community-wide coalition process. This process was coordinated by the NCFCWCD. The Community Coalition has been a cooperative process among a wide ranging group of stakeholders with diverse interests. This Community Coalition, with the assistance of the Corps, resource agencies[1] staff, and outside consultants, developed the major concepts in the Project to meet the dual objectives of reducing flood damage and maintaining and enhancing environmental quality. The resource agencies unanimously commented favorably on the Supplemental Environmental Impact Statement/Environmental Impact Report (SEIS/EIR) for the Project. The Project is described

[1] Board, California Department of Fish and Game (CDF&G), US Environmental Protection Agency (US EPA), Natural Resource Conservation Service (NRCS), National Marine Fisheries Service (NMFS), US Fish and Wildlife Service (USFWS), Coastal Conservancy, and State Lands Commission

in detail in the Supplemental General Design Memorandum (SGDM) dated October 1998, which is incorporated into this Order by reference.

3. The Water Quality/Habitat workgroup within the Community Coalition created the "Living River Guidelines". These guidelines contain geomorphic, habitat, and water quality objectives which were used to guide and evaluate design decisions for the Project. These guidelines will continue to be used by the Board staff to evaluate future design change requests.

4. Napa County residents approved "Measure A" which imposed a 1/2 cent local sales tax to help fund the Project. Measure A additionally created a Technical Advisory Panel (TAP) comprised of local citizens. The TAP meets monthly with the Corps and NCFCWCD to review implementation plans for the Project, and ensure they are consistent with the SGDM.

5. To protect the water quality in the Project area, to adequately address disposal of excavated material, to meet the objectives of California Wetland Conservation Policy, and to alleviate local flooding problems in an environmentally responsible way, the Board has determined to regulate the proposed activities by issuance of Waste Discharge Requirements (WDRs).

6. The Board, on June 21, 1995, adopted, in accordance with Section 13244 et. seq. of the California Water Code, a revised Water Quality Control Plan, San Francisco Bay Basin (Basin Plan). This updated and consolidated revised Basin Plan was approved by the State Water Resources Control Board and the Office of Administrative Law on July 20, 1995, and November 13, 1995, respectively. A summary of regulatory provisions is contained in 23 CCR 3912. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface waters and groundwaters. This Order is in compliance with the Basin Plan.

7. The existing beneficial uses of the waters of the Napa River as set forth in the Basin Plan are as follows:

    a. Agricultural Supply

    b. Cold and Warm Freshwater Habitat

    c. Fish Migration and Spawning

    d. Navigation

    e. Preservation of Rare and Endangered Species

    f. Water Contact Recreation

    g. Noncontact Water Recreation

    h. Wildlife Habitat

8. This Order allows construction and implementation of the Project as described in the SGDM, and evaluated in the March 1999 SEIS/EIR. It is anticipated that this Project will require

approximately 7 years to complete. Construction will occur in five phases. The first phase is anticipated to begin in March/April 2000.

9. The SGDM has been completed in sufficient detail to evaluate the environmental impacts of the Project. Detailed design plans for individual phases of the Project will be completed over the next seven years. This Order requires submission of the final design plans for each phase and a summary of changes with justifications.

   The elements which are critical to ensuring that the Project protects water quality and habitat have been specified in this Order (e.g., elevation of the marshplain terraces). Flexibility to change these or other elements during any phase of the design process is provided by permitting minor design changes with the written authorization of the Executive Officer, and major changes with Board approval. Criteria for determining major and minor changes are specified in Provision C. 5.

10. Final design plans (95% complete) will be submitted to the TAP and Board staff to be reviewed for consistency with the SGDM and previously approved design changes. A summary report of changes, if any, will accompany the design plans submitted by the Dischargers. If there are no changes, then no further Executive Officer or Board action is required. Minor and major changes will require authorization as discussed in Finding 11.

11. A design review process is specified in this Order. The Dischargers will submit significant design changes from the SGDM to the TAP. If these changes are approved by the TAP, they will then be evaluated by Board and resource agencies staff, in consultation with the Dischargers. The changes will be evaluated to determine if they potentially affect water quality, wetland/riparian habitat, river geomorphology, or other areas of Board jurisdiction. Any changes which may potentially affect areas of Board jurisdiction will be submitted for Executive Officer (minor changes) or Board (major changes) approval. While Board staff will consult with the TAP, the Executive Officer or the Board will independently approve any changes.

Wetland Impacts and Mitigation Findings

12. The Dischargers have prepared a Wetland Mitigation Plan and a draft Wetland Maintenance and Monitoring Plan which are divided into components regarding funding, implementation and monitoring, as follows:

    a. The Corps is responsible for the creation and/or restoration and monitoring of seasonal wetlands and emergent tidal marsh located in the marshplain and floodplain terraces, as mitigation for any existing wetlands which are adversely impacted by the Project. This monitoring shall occur for a minimum of three years (a longer timeframe shall be required if specified success criteria are not achieved);

    b. The NCFCWCD is responsible for the monitoring of the wetlands referenced in Finding 12. a. above beginning in the fourth (4th) year, for a minimum of 5 years from the

completion of construction at the mitigation site(s) (this time period may be increased based on the performance of the mitigation). Riparian vegetation shall be monitored for 10 years, or until performance criteria have been satisfied (this may require longer than 10 years on Napa Creek); and,

c. The NCFCWCD is responsible for the creation, restoration and monitoring of seasonal wetlands, emergent tidal marsh and associated uplands in the portion of the area known as the South Wetlands Opportunity Area (SWOA) (see Figures 3 and 4) that are not already included in the areas referenced in Finding 12. a. above. The design for the SWOA is detailed in the document, "Conceptual Plan for Enhancement of the Alluvial Floodplains and Tidal Marshlands of the Upper Napa River Estuary", and the SEIS/EIR.

13. Wetland impacts and mitigations are discussed in Findings 14-18 below. Wetland impacts due to the construction of the marshplain and floodplain terraces, bank stabilization, levee placement and soil disposal are as follows:

- 7.32 acres of tidal wetlands;
- 44 acres of diked, grazed, and farmed seasonal wetlands;
- 0.3 acres of tidal mudflats; and,
- 8.40 acres of riparian forest, riparian scrub-shrub, and shaded riverine aquatic cover.

The Basin Plan Wetland Fill Policy establishes that there is to be no net loss of wetland acreage and no net loss of wetland value when a project and any proposed mitigation are evaluated together, and that mitigation for wetland fill projects is to be located in the same area of the Region, wherever possible, as the project. The Policy further establishes that wetland disturbances should be avoided whenever possible, and if not possible, should be minimized, and only after avoidance and minimization of impacts should mitigation for lost wetlands be considered. The Dischargers have submitted documentation to show that appropriate effort was made to avoid and then to minimize wetland disturbance, as required by the Basin Plan.

14. The Dischargers' mitigation and enhancement for the impacts summarized in Finding 13 are described in the Wetland Mitigation Plan and are summarized as follows:

- Creation of 160.7 acres of emergent tidal marsh (56 acres marshplain terraces/ 104 acres SWOA);
- Creation of 56.2 acres of seasonal wetland (45 acres floodplain terrace/ 11.2 acres SWOA);
- Creation of 2.5 acres of tidal mudflat (riprap removal, marshplain terraces);
- Creation of 30.95 acres of riparian habitat (throughout the Project);
- Conversion and enhancement of 262 acres of diked and grazed seasonal wetlands to high value emergent tidal wetlands (SWOA);
- Enhancement of 136 acres of diked and grazed seasonal wetland (Stanley Ranch). This land will be maintained and managed for seasonal wetland values (55 acres Corps/ 81 acres SWOA);
- Creation of 11 acres of woodlands; and,

- Enhancement of 72 acres of uplands adjacent to wetlands.

In summary, this Project will impact 51.32 acres of emergent tidal marsh and seasonal wetland. This Project will create 217 acres of tidal and seasonal wetlands, and enhance 398 acres of wetlands and 72 acres of uplands contiguous to wetlands.

The existing seasonal wetlands are diked, grazed, and hay cropped. They exist as a mosaic of seasonal wetlands and uplands. They are isolated from the River except during very high flow flood events. The existing emergent tidal marsh is predominantly fragmented without a linear connection along the River. The created and enhanced wetlands will be high value emergent tidal, seasonal and riparian wetlands. There will be a high degree of connectivity between the River, emergent tidal wetlands, seasonal wetlands, riparian forest and upland areas. Wetland and riparian forest/scrub-shrub will be created in four main areas: 1) marshplain terraces; 2) floodplain terraces; 3) transition zones between marshplain and floodplain terraces; and 4) the SWOA. These are described in Findings 15-17 below.

15. The Dischargers propose to improve flood flow conveyance through the creation of marshplain and floodplain terraces (see Appendix C for detailed channel cross section). The marshplain terrace will be constructed by lowering the existing river banks to an elevation approximately equal to mean tide. The terrace will be sloped towards the River to provide varying hydrologic regimes for tidal wetland plants. This terrace will create 56 acres of emergent tidal marsh wetlands and 2.5 acres of tidal mudflats. Emergent tidal marsh will be created in a continuous linear band on the eastside of the River for approximately 2.6 miles, with a width ranging from 100 to 150 feet.

16. A transition zone between the marshplain and floodplain terrace will be constructed and vegetated with riparian species. Where it is not feasible to establish riparian species due to soil salinity, shrub and grassland will be established. The floodplain terrace starting elevation will vary from downstream to upstream (See Appendix A). 45 acres of seasonal wetlands will be established on the floodplain terrace. Construction will be done in coordination with the Mosquito Abatement District, CDF&G, NMFS, and USFWS to minimize mosquito breeding problems and fish stranding problems.

17. The SWOA extends south of the Newport North Marina to the Highway 29 Bridge. Currently, the main use of this land is grazing and hay cropping, with a small amount of vineyard development. Approximately 615 acres of wetlands will be created or enhanced within the SWOA. The emergent tidal wetlands will be created through lowering levees and breaching existing dikes. The SWOA will consist of an interconnected mosaic of emergent tidal wetlands, seasonal wetlands, riparian and upland areas which will be managed for wetland and upland habitat values. The River will be directly connected to the SWOA through overland flow (over low levees) and through existing and created channels. The wetlands in the SWOA will have a continuum of habitats beginning with the open water of the River that will flow into the tidal channels and onto the emergent tidal wetlands. Grasslands and woodlands will provide upland habitat contiguous to both the tidal emergent and seasonal wetlands (see Figure 3).

The wildlife benefits of the habitat continuum created on the SWOA are significant because of the association of the upland with wetlands, a rare habitat in this area of the North Bay. The upland provides refuge for wetland species during tidal and flooding events. This physical connection also provides upland species with access to the water. The primary expected benefit of this habitat for fish is to increase aquatic productivity and provide additional areas of feeding and rearing habitat. The tidal sloughs will serve as refuge for fish from high flood flows. They will provide an additional habitat type and potentially increase the number of fish species and life stages that could use the area.

The northwest 100 acres of this area currently is farmed, grazed and hay cropped, or planted in vineyard. The existing vineyard will remain, protected by a levee. Additionally, 80 acres on the periphery of the SWOA will be used for soil disposal and turned into vineyard (see Figure 3).

18. The Dischargers' draft Wetland Maintenance and Monitoring Plan contains provisions for the elimination and future control of invasive exotic vegetation on the marshplain and floodplain terraces, and within other habitat mitigation areas. The Corps is responsible for the elimination and monitoring of invasive species located in the marshplain and floodplain terraces, and Napa Creek. The NCFCWCD is responsible for elimination and monitoring of invasive species located within the SWOA and not already included in the Corps areas of responsibility (floodplain and marshplain terraces). Additionally, the NCFCWCD is responsible for all mitigation areas after the Corps' three-year monitoring agreement expires.

    The final Wetland Maintenance and Monitoring Plan will be submitted for Executive Officer approval. A workgroup has been formed to review this Plan including representatives from the Board, CDF&G, NRCS, USFWS, USEPA and the TAP. While Board staff will consult with this workgroup, the Executive Officer will independently approve the Plan.

Design Findings

Napa River

19. The Dischargers propose to increase flood flow conveyance through the use of levees setback from the main River channel. Additionally, the lowering of existing dikes in the southern reach of the Project will improve flow conditions and allow flooding in the River's natural floodplain. The locations and setbacks of these levees and the lowering of the dikes are identified in the SGDM. The locations, setbacks, and degree of lowering are critical to the proper functioning of the environmental features of the Project through direct and indirect affects.

20. The Dischargers propose to construct a "dry" bypass channel for the River through the Oxbow in the northern reach of the Project (see Figure 1). The crest of the bypass controls the amount of flow through the bypass. To provide flood relief, the crest would allow only flood flows of a certain magnitude to be diverted through the bypass. The remainder of the

time, the bypass would be dry, and flows would be conveyed in the River's natural channel through the Oxbow. This would maintain the circulation and oxygen dynamics in the Oxbow channel, with only a predicted minor decrease in sediment transport capacity[2]. This would lead to minor dredging approximately every eight years in the vicinity of the bypass entrance. A detailed geomorphic study was conducted to determine the proper height of this crest[3]. The height of the crest is important in insuring that the bypass functions as a "dry" bypass and only transports flows during high flow periods.

21. The Dischargers propose to remove, reconstruct, or replace numerous vehicular and pedestrian bridges in downtown Napa. Currently, these bridges obstruct the River's flow and increase flood level elevations. The plan for bridge removal and replacement is described in the SGDM. Final plans will be submitted for Executive Officer written approval. The plans will be reviewed to insure that the extent of rip rap and concrete used for bank stabilization and river bed stabilization have been minimized.

22. The Dischargers propose to maintain existing boat access structures at Fourth Street, the Sea Scouts Building, and the Napa Yacht Club. No additional structures are proposed.

23. The SGDM describes installation of three pump stations to pump flood water and stormwater which has become trapped behind the River's floodwalls. The Dischargers are re-analyzing this interior drainage system to determine if this design will efficiently convey interior drainage during flood events. The pump station designs do not incorporate pollution reduction measures. The technical and economic feasibility of installing such measures is not known. The Dischargers will evaluate the feasibility of incorporating stormwater pollutant removal measures into the interior drainage system. A report, acceptable to the Executive Officer, will be submitted discussing the findings of their study.

24. The Dischargers have developed a plan to stabilize the banks of both the Napa River and Napa Creek that uses nine different bank treatment methods. These treatment methods were developed through significant input from the Community Coalition and the resource agencies. The Corps' design regulations require bank treatment with adequate strength to protect river banks and associated structures such as levees from water's erosive forces. The most commonly used methods involve rock rip rap, keyed into the river bottom and placed high up on the bank. However, this method also has the most adverse impact on aquatic, wetland and riparian habitat. Therefore, the Corps has identified habitat enhancing bioengineering options which could be used in the majority of the Project reaches. In some cases, only vegetation will be used (Treatment Method 1), designed and installed specifically to provide strength to the banks. In other cases, a mixture of rip rap and vegetation will be used (Treatment Method 2). In cases where the highest erosive forces are present and important structures are located close to the River or Creek, rip rap will be used in conjunction with habitat enhancing elements, such as root wads and lunkers (Treatment Method 3).

---

[2] A detailed sediment transport study was conducted by Phillip Williams and Associates to predict sedimentation rates and dredging frequency throughout the Project.

[3] set at the dominant discharge elevation

Treatment Method 2 will include placing rock rip rap at the toe of the bank, so that it would be submerged most of the time of day except at low tides. Treatment Method 3 incorporates the use of rock rip rap to a maximum elevation of mean tide level. Vegetation would be planted above this elevation. The elevations of the rip rap and locations of these bank treatments were carefully determined to provide the necessary river bank strength while maintaining or enhancing habitat (see Appendix B).

25. The Dischargers' proposed bank stabilization plan would place 4000 lineal feet of rock rip rap in areas where currently there is no rip rap. This would be mitigated by the removal of 8400 lineal feet of existing rip rap. The location of the rip rap to be removed is specified in Appendix B.

26. Implementation of the SGDM involves construction of the marshplain terrace and removal of rip rap which may elevate turbidities above background locally for short periods of time (less than 24 hours). These project features are environmental components of the Project which are essential to improving the wetland and aquatic habitat of the River. To mitigate any potential impact on migrating and spawning fish, USFWS, CDF&G and NMFS have prohibited in-water construction activities between October 15 and June 1. Provision has been made by the above mentioned agencies, to allow the Dischargers to petition to conduct construction for an extended timeframe, depending on the weather or other special circumstances.

    Additionally, the Dischargers will prepare and implement a Best Management Plan to minimize any increases in turbidity. This will be done in consultation with Board staff and other resource agency staff.

Napa Creek

27. The Dischargers have submitted a design for 0.67 miles of Napa Creek which is included in the SGDM. The Dischargers propose to alleviate flooding in the vicinity of the Creek through the use of two bypass culverts and a floodplain terrace (see attached Figure 5). Elevations of the bypass culvert weirs and floodplain terrace heights are critical to the proper functioning of the Creek and were determined through consultation with the Community Coalition, resource agencies, and private hydrology consultants. The bypass culverts will allow the existing stream geometry and existing vegetation to remain intact. This is significant as these sections of the Creek contain numerous mature native trees, good shade and are a steelhead rearing area. The floodplain terrace has been designed to minimize the removal of existing trees. Vegetation would be replanted on the terrace after its construction. Construction of the terrace requires the purchase and removal of 10 homes and 5 garages. Only minor work will be done within the active channel.

28. The Dischargers propose to install grade control structures upstream of the Creek's flood conveyance improvements. Design plans for the grade control structure(s) will be submitted

to the Executive Officer for written approval. The Dischargers have been notified that appropriate permits must be obtained from CDF&G and NMFS.

29. The Dischargers propose to monitor bank stability in the Creek's project area on a yearly basis. The Dischargers will work with the City of Napa to develop a local permitting program for bank stabilization. In the event bank stabilization is needed, biotechnical bank stabilization will be used unless shown to be infeasible. The conceptual designs prepared by the Corps (see Appendix B) will be the basis for stream bank repair work in this area. This Order does not permit bank stabilization projects which are not included in this Project. Bank stabilization projects implemented by private landowners or the City, not in conjunction with this Project, will require separate Water Quality Certification or WDRs.

Soil Disposal Findings

30. The Dischargers have submitted a proposal for managing 1.7 million cubic yards of excavated soil depending upon the soil characteristics and locations of the excavation. This proposal will be modified to be consistent with Title 27, Division 2, Subdivision 1, Chapter 2 of the California Code of Regulations (Title 27). Final design plans for the soil disposal activities discussed in Findings 31-44 below, have not been completed in sufficient detail, with the exception of the west side disposal plan. Modifications to the westside disposal plan will be submitted to the Executive Officer for written approval. This Order requires submission of the final design plans for the remaining disposal sites and Board approval of these plans.

31. Excavated soil will be classified as inert, nonhazardous solid waste, designated waste and hazardous waste, consistent with Title 27. Inert waste is defined in Section 20230, Title 27, as, "that subset of solid waste that does not contain hazardous waste or soluble pollutants at concentrations in excess of applicable water quality objectives, and does not contain significant quantities of decomposable waste."

32. Designated waste is defined in Section 13173, Porter-Cologne Water Quality Control Act, Division 7, California Water Code.

33. Hazardous Waste is defined in Title 27 as follows: "means any waste which under Article 1, Chapter 11, Division 4.5 (Sect. 66261.3 et seq.) of Title 22, is required to be managed according to Division 4.5 of Title 22."

34. Nonhazardous Solid Waste is defined in Section 20220, Title 22, of the California Code of Regulations.

35. The Dischargers will develop criteria, in accordance with Title 27, which will be used to classify the excavated material as inert, nonhazardous solid waste, designated waste or hazardous waste.

36. Soil excavated below mean high tide elevation may be saturated. Soil disposal plans at each disposal site will include provisions for reducing the moisture content of saturated soil. The Dischargers will develop site specific criteria for the allowable moisture content of inert soil prior to placement in a final disposal site.

37. The Dischargers propose to dispose of the soil classified as inert at five sites as discussed in Findings 38 and 39 below (see Figure 6). An economic, technical feasibility and environmental analysis was conducted of different soil disposal options for inert soil. It was determined that the best option was to dispose of inert soil on the same side of the River (east or west) from which it was excavated. Transporting inert soil across the River by barge or slurry, or hauling it by truck across the Highway 29 or Imola Bridges was cost prohibitive, technically unfeasible (slurry), or had potentially significant environmental impacts. Additional factors such as land availability and the existence of willing land sellers (versus land condemnation) were taken into account.

38. The Dischargers propose to dispose of approximately 450,000 cubic yards of inert soil excavated on the west side of the Napa River at two sites (W-1 and W-2), where it will be used for levee construction and vineyard fill (see Figure 3). These sites are located in the northwest corner and on the periphery of the SWOA. Although these sites will impact 31.4 acres of diked, grazed seasonal wetlands, these sites were selected based on a Soil Disposal Alternatives Analysis with the goal to minimize the fill of wetlands and maximize the functions and values of the mitigation and enhancement wetlands (detailed in Findings 14-18).

    The Dischargers propose to dispose of approximately 1,030,000 cubic yards of inert soil excavated on the east side of the River at the nearby Syar Quarry, where it will be used as fill to reclaim the quarry landscape. This is an upland site. Additionally, approximately 220,000 cubic yards of inert soil excavated on the east side of the River will be deposited in two upland areas (sites E-7 and E-8) identified as suitable for soil disposal on the east side. The inert soil will be hauled a short distance by truck to all three sites.

39. The Dischargers propose to create a temporary treatment and storage site for material not classified as hazardous. This material will be treated to levels suitable for disposal as inert soil, or transported to a suitable disposal site (Class III landfill or a Class I hazardous waste landfill), consistent with Title 27. The Dischargers will submit a plan acceptable to the Executive Officer for the creation and operation of the temporary soil treatment and storage site. At that time, this Order will be amended to permit such operation.

40. The Dischargers have conducted a review of site histories within the Project area to identify sites which may contain nonhazardous solid waste, designated waste or hazardous waste. Based on the results, site inspections and soil analyses (where deemed necessary), were conducted. Nine sites were identified which require remediation (discussed in Finding 43 below). These site histories and follow-up inspections/soil analyses, are adequate to identify major areas of contamination. However, they may not be sufficiently detailed to adequately identify appropriate soil disposal locations. Therefore, for each construction phase (I-V), the

Dischargers will conduct a review of the site histories, and soil and groundwater data which have already been collected, and identify data gaps. The necessary data will then be collected to adequately characterize the soil for disposal as required under Title 27.

41. Analysis of the site histories within the Project area indicated that numerous sites had no history of spills or industrial activities which might contaminate the soil or groundwater. The Dischargers have assumed that these sites are underlain by inert soil. However, the Dischargers will develop a sampling and analysis plan with appropriate sampling frequencies to confirm that soil from these sites meets the inert criteria for disposal purposes.

42. The Dischargers propose to develop a contingency plan for construction and excavation activities which will occur in known areas of contaminated material. An onsite contractor certified in OSHA and RCRA Guidelines will observe excavated materials at all times during excavation and grading of sites which may contain hazardous or petroleum contaminated waste. Soil which is suspected of containing contamination will be segregated and analyzed as described in the contingency plan.

43. Nine sites contaminated with petroleum hydrocarbons from bulk oil storage facilities are located within the Project's boundaries adjacent to the River. The Board has identified the parties responsible for cleaning up these sites, or is working to identify the parties. The Board has adopted five Site Cleanup Requirements. In the event additional cleanup work is necessary, the Board shall modify these Site Cleanup Requirements, or adopt new Site Cleanup Requirements.

Operations, Maintenance and Monitoring Findings

44. The Dischargers have submitted draft Operations and Maintenance (O&M) Manual sections which apply to environmental concerns such as: maintenance dredging; bank stabilization; vegetation removal; and hydraulic, sediment and vegetation monitoring. The Dischargers are investigating potential hydraulic models to incorporate into the monitoring program.

    The final O&M Manual (environmental sections) will be submitted for Executive Officer approval. A workgroup has been formed to review this Manual including representatives from the Board, CDF&G, NRCS, USEPA and the TAP. While the Board staff will consult with this workgroup, the Executive Officer will independently approve the Manual.

45. This Order permits maintenance to be conducted in all reaches of the Project during the life of this Order or a maximum of 10 years. Maintenance will be conducted in conformance with the O&M Manual described in Finding 44. The Dischargers will submit an annual report of planned maintenance activities for written approval by the Executive Officer. The annual report for year ten shall include a Report of Waste Discharge for long-term maintenance activities necessary in all reaches of the Project after the initial ten years.

46. On May 4, 1999, the Dischargers adopted a Final SEIS/EIR for the Project. This Order includes mitigation measures that will mitigate or avoid any potential impacts to water

quality identified in the Final SEIS/EIR. The most significant mitigation measures are identified below:

Impact	Mitigation Measures
Excess siltation Alteration of River's salinity regime Loss of River habitat complexity Fish migration barriers	• The geomorphically based design incorporating marshplain and floodplain terraces, setback levees, and use of the floodway, has been designed to maintain the River's sediment transport capacity and thus minimize sedimentation; • The geomorphically based design minimizes alteration of the active channel and thereby minimizes alteration of the River's salinity regime; • The use of floodplain and marshplain terraces, and biotechnical bank stabilization measures, improve the River's habitat complexity and provides adequate cover for fish migration.
Decrease in oxygen levels in the Oxbow Decrease in sediment transport capacity in the Oxbow	A dry bypass has been designed which allows the flow to remain totally in the Oxbow the majority of the time. The flows will be divided between the Oxbow and bypass structure only during high flood flow events. This will maintain the oxygen dynamics and sediment transport capacity of the Oxbow. Minor dredging is predicted (by sediment transport modeling) to be necessary in the Oxbow.
Loss of wetland and contiguous upland habitat	The Wetland Mitigation Plan is discussed in detail in Findings 12-18. This mitigation plan meets the Basin Plan requirements of no net loss of wetland acreage and no net loss of wetland value.
Loss of steelhead rearing habitat	The design of Napa Creek incorporates two bypass channels and a floodplain terrace. This design maintains the active channel intact and allows preservation of the majority of the mature trees. Trees which are removed will be replaced as part of the Wetland Mitigation Plan.

47. The Board has notified the Dischargers and interested agencies and persons of its intent to prescribe WDRs for this Project.

48. The Board, in a public meeting, heard and considered all comments pertaining to the Project.

IT IS HEREBY ORDERED that the Dischargers, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

1. The discharge of wastes from soil removal sites or construction areas, to surface waters or surface water drainage courses is prohibited.

2. The discharge of fill as defined under Section 401 of the Federal Clean Water Act, except as identified in the SGDM/SEIS/EIR or Provisions of this Order, is prohibited.

3. Project activities subject to these requirements shall not cause a nuisance as defined in Section 13050(m) of the California Water Code.

4. The discharge of decant water from saturated soil drying sites, to surface waters or surface water drainage areas is prohibited.

5. The discharge of silt, sand, soil, clay, or other earthen materials from excavation or construction activities in quantities sufficient to cause deleterious bottom deposits, deleterious turbidity or deleterious discoloration in surface waters is prohibited.

B. Receiving Water Limitations

1. Soil removal or disposal, or construction activities shall not cause:

   a. Floating, suspended or deposited macroscopic particulate matter or foam in waters of the State.

   b. Alteration of apparent color beyond present natural background levels in waters of the State. For in-stream construction activities, this shall apply at any point beyond 1000 feet downstream of the point of the activity.

   c. Visible floating, suspended, or deposited oil or other products of petroleum origin in waters of the State.

   d. The Project activities shall not cause Waters of the State to exceed the following quality limits at any place:

i. Dissolved Oxygen: 5.0 mg/l minimum. When natural factors cause lesser concentrations, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.

ii. pH: A variation of natural ambient pH by more than 0.5 pH units.

iii. Toxic or other deleterious substances: None shall be present in concentrations or quantities which may cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.

2. Turbidity of the waters of the State, as measured in NTUs, shall not increase above background levels by more than the levels identified below. For in-stream construction activities, this shall apply at any point beyond 1000 feet downstream of the point of the activity.

Receiving Waters Background	Incremental Increase
<50 units	5 units, maximum
50-100 units	10 units maximum
≥ 100 units	10% of background

3. The groundwater shall not be degraded as a result of the soil disposal and handling operation or any other activities permitted by this Order.

C. **Provisions**

1. The Dischargers shall comply with all the Prohibitions, Receiving Water Limitations, and Provisions of this Order immediately upon adoption of this Order or as provided below.

Soil Excavation and Disposal

2. The Dischargers shall prepare, submit, and implement soil characterization and disposal plans of material to be excavated, which will be submitted for Board approval. These plans shall be consistent with Title 27, Division 2, Subdivision 1, Chapter 2 of the California Code of Regulations. Upon Board approval, this Order shall be amended or a separate Order adopted, to incorporate these plans. These plans shall include provisions for:

a. Development of Soil Classification Criteria:
Develop criteria, in accordance with Title 27, which will be used to classify the excavated material as inert, nonhazardous solid waste, designated waste and hazardous waste for the purposes of determining appropriate soil disposal locations.

b. Site Evaluations to Characterize Waste (Inert, nonhazardous solid waste, designated waste or hazardous waste):
This plan is to be done for each phase of the Project and shall include at a minimum the following activities:

i. Review site histories and previously collected soil and groundwater data within the specified Project reach to identify data gaps;
ii. Conduct field investigations of sites with known histories or suspected contamination to fill in data gaps;
iii. Collect and analyze soil samples for appropriate constituents where necessary to fill in data gaps. Spatial distribution and frequency of samples shall be sufficient to adequately determine the lateral and vertical extent of contamination. The results will be used to predict volumes of inert versus contaminated material, and to insure that appropriate soil excavation and transport methods are used. In areas where excavation will occur to groundwater level, groundwater samples may be necessary; and,
iv. Collect and analyze soil samples for appropriate constituents to confirm the assumption that soil excavated in areas with no known history of spills or industrial pollution, satisfy the criteria for inert waste.

The analyses in iii. and iv. above, may be conducted prior to excavation or during excavation, as specified in the plan.

c. **Contingency Plan for Construction at Sites with Suspected or Known Designated or Hazardous Waste:**

The Dischargers shall develop a contingency plan for construction and excavation activities which will occur in known areas of contaminated material. An onsite contractor certified in OSHA and RCRA Guidelines will observe excavated materials at all times during excavation and grading of sites which may contain hazardous or petroleum contaminated waste. Soil which is suspected of contamination will be segregated and analyzed as described in the contingency plan.

d. **Best Management Practices to maintain water quality during in-water construction activities:**

Prepare a Best Management Practices Plan to be implemented for each phase of the Project to minimize any increases in turbidity from in-water construction activities. This Plan will be prepared in consultation with Board staff and other resource agency staff.

e. **Detailed plans for inert soil disposal on the east side of the River: (Syar Quarry, E-7 & E-8):**

i. Identify and map proposed soil disposal areas and existing wetland and drainage areas. Soil disposal areas shall be located to avoid impacts to groundwater, surface water and wetlands;
ii. Discuss site evaluation, waste characterization, and management measures consistent with Title 27; and,
iii. Identify site specific criteria for determining the allowable moisture content of inert soil prior to placement in the final disposal site and provisions for reducing the moisture content of saturated soil.

f. Detailed plans for the construction and operation of a temporary treatment and storage site for material classified as nonhazardous solid waste, designated waste or hazardous waste:

i. Identify and map proposed soil treatment and storage areas and existing wetland and drainage areas. Soil treatment and storage areas shall be located to avoid impacts to groundwater, surface water and wetlands; and,

ii. Discuss site selection and design, waste characterization, and management measures consistent with Title 27.

Due Date: March 15, 2000

3. The Dischargers shall submit by March 15, 2000, detailed final plans for inert soil disposal on the westside of the River (W-1& W-2):

   Submit final plans for written approval of the Executive Officer for disposal of soil on the westside of the Napa River. This shall include: 1) site specific criteria for determining the allowable moisture content of inert soil prior to placement in the final disposal site; 2) provisions for reducing the moisture content of saturated soil; 3) detailed plans for modification of the existing drainageway; and 4) discussion of waste characterization and site management measures consistent with Title 27.

4. The Dischargers shall file with the Board a report of any material change or proposed change in the character, location, or quantity of this waste discharge (soil disposal). For the purpose of these requirements, this includes any proposed change in the boundaries of the disposal sites.

Design Provisions

5. The Dischargers shall submit design changes from the SGDM to the TAP. If these changes are approved by the TAP, they will then be evaluated by Board and resource agencies staff, in consultation with the Dischargers to determine if they potentially affect water quality, wetland/riparian habitat, river geomorphology, or other areas of Board jurisdiction. Any changes which may potentially affect areas of Board jurisdiction will be submitted for Executive Officer (minor changes) or Board (major changes) approval.

   The criteria which will be used to determine whether a change is minor or major are as follows[4]:

[4]note: These criteria do not mean that Nationwide and Individual Corps Permits are required for these activities. Rather, the purpose here is to use existing Federal criteria, which is consistent with existing Board policy, to determine levels of potential environmental impact and thereby identify the proper mechanism (Executive Officer or Board) for approving minor and major design changes. The 404 CWA criteria for Nationwide and Individual permits will be applicable to the majority of design changes which may arise during final project design. Therefore, these criteria are well suited for determining whether a Project design change is minor or major.

- Minor Design Change: Any change which meets the CWA Section 404 criteria for a Nationwide Permit or impacts less than two acres of wetlands (e.g., addition of a new culvert); or,
  A type of design change which is specified in Provision C. 6-8. below (e.g., minor change in elevation of marshplain terrace).

- Major Design Change: Any change which meets the CWA Section 404 criteria for an Individual Permit, and impacts two acres or more of jurisdictional wetlands.

- Design changes which do not meet the above criteria, but have been determined to have a potential affect on water quality or other areas of Board jurisdiction, will be evaluated by Board staff using appropriate Board policies to determine the level of significance (minor or major).

6. The Dischargers shall submit final design plans (95% complete) to the TAP and Board staff to be reviewed for consistency with the SGDM/SEIS/EIR, and previously approved design changes. A summary report of changes, if any, will accompany the design plans. If there are no changes, then no further Executive Officer or Board action is required.

7. The Dischargers shall construct all features, including the marshplain and floodplain terraces, the Napa River dry bypass, Napa Creek bypasses, and the Napa Creek floodplain terrace, as described in the SGDM/SEIS/EIR and identified in Appendix A. Minor design changes include changes in feature elevation.

8. The Dischargers shall construct the floodplain terrace in such a manner as to avoid fish stranding. This shall be done in consultation with CDF&G and NMFS.

9. The Dischargers shall construct and locate setback levees, floodwalls, and remove and lower dikes as described in the SGDM/SEIS/EIR. Minor design changes include changes in levee location or elevation which do not impact two acres or more of jurisdictional wetlands.

10. The Dischargers shall implement the bank stabilization designs as described in the SGDM/SEIS/EIR and Appendix B. Appendix B identifies critical features of each treatment method and the locations for each bank treatment method and rip rap removal.

11. The Dischargers shall submit bridge final design plans for Executive Officer approval. The Dischargers shall minimize the use of rock rip rap and streambed alteration. The plans shall include a discussion of the location and extent (lineal feet, width and depth) of rip rap. Wherever possible, the rip rap shall be planted with appropriate vegetation. Silt curtains and other measures identified in the Storm Water Pollution Prevention Plan (Provision C. 18.) shall be installed to prevent suspended sediment from dispersing during bridge removal and construction.

12. The Dischargers shall submit final grade control design plans for Napa Creek for written approval by the Executive Officer. These plans shall be submitted to CDF&G and NMFS for comment and any applicable permits.

13. The Dischargers shall evaluate the technical and economic feasibility, and pollution reduction benefits of installing pollution reduction measures in the interior drainage system. A report describing the findings of this evaluation and proposed implementation plans for all feasible measures, acceptable to the Executive Officer, shall be submitted by September 30, 2000.

Mitigation, Monitoring and O&M Provisions

14. The Dischargers' mitigation and enhancement included in the Project and as described in the Wetland Mitigation Plan, is summarized as follows:

- Creation of 160.7 acres of emergent marsh (56 acres marshplain terraces/ 104 acres SWOA);
- Creation of 56.2 acres of seasonal wetland (45 acres floodplain terrace/ 11.2 acres SWOA);
- Creation of 2.5 acres of tidal mudflat (rip rap removal, marshplain terraces);
- Creation of 30.95 acres of riparian habitat (throughout the Project);
- Conversion and enhancement of 262 acres of diked and grazed seasonal wetlands to high value emergent tidal wetlands (SWOA);
- Enhancement of 136 acres of diked and grazed seasonal wetland (Stanley Ranch). This land will be maintained and managed for seasonal wetland values (55 acres Corps/ 81 acres SWOA);
- Creation of 11 acres of woodlands; and,
- Enhancement of 72 acres of uplands adjacent to wetlands.

15. The Dischargers have submitted an acceptable Wetland Mitigation Plan as outlined in Provision C. 14. This Plan shall be implemented. The Dischargers shall submit and implement a final Wetland Maintenance and Monitoring Plan, including an invasive species eradication component, by June 15, 2000, for written approval of the Executive Officer.

16. The Dischargers shall divide the responsibilities regarding the funding, implementation and monitoring described in the Wetland Mitigation Plan and draft Wetland Maintenance and Monitoring Plan, into components as follows:

a. The Corps is responsible for the creation and/or restoration and monitoring of seasonal wetlands and emergent tidal marsh located in the marshplain and floodplain terraces, as mitigation for any existing wetlands which are adversely impacted by the Project. This monitoring shall occur for a minimum of three years (a longer timeframe is required if specified success criteria are not achieved);

b. The NCFCWCD is responsible for the monitoring of the wetlands referenced in Provision C. 16. a. above beginning in the fourth (4th) year, for a minimum of 5 years from the completion of construction at the mitigation site(s) (this time period may be increased

based on the performance of the mitigation). Riparian vegetation shall be monitored for 10 years, or until performance criteria have been satisfied (this may require longer than 10 years on Napa Creek); and,

c. The NCFCWCD is responsible for the creation, restoration and monitoring of seasonal wetlands and emergent tidal marsh in the SWOA (see Figures 3 and 4) that are not already included in the areas referenced in Provision C. 16. a. above.

17. The Dischargers shall submit by June 15, 2000, for written approval of the Executive Officer, final Operations and Maintenance (O&M) Manual sections, which apply to environmental concerns such as maintenance dredging; bank stabilization; vegetation removal; and hydraulic, sediment and vegetation monitoring. The extent and location of vegetation and sediment removal shall be determined through the use of hydraulic modeling. O&M shall be conducted according to the Manual. The O&M Manual may be amended with written approval of the Executive Officer.

General Provisions

18. The Dischargers shall obtain coverage for all construction activities under the State Board's NPDES General Permit for Storm Water Discharges Associated With Construction Activities. The General Permit requires, in part, the development of a Storm Water Pollution Prevention Plan (SWPPP) for all construction activities, prior to commencement of construction, to insure that there is no discharge of waste or wastewater into Waters of the State. The Dischargers shall submit the SWPPP to Board staff prior to commencement of construction.

19. The Dischargers shall remove and relocate any wastes which are discharged at any sites in violation of this Order.

20. Soil removal, transport or disposal operations shall cease immediately whenever violations of requirements are detected through implementation of the Self-Monitoring Program (SMP), and operations shall not resume until alternate methods of compliance are provided. The Dischargers shall notify the Board immediately whenever violations are detected.

21. The Dischargers are considered to have full responsibility for correcting any and all problems which arise in the event of a failure which results in an unauthorized release of waste or wastewater during soil removal, transport or disposal, or general construction operations.

22. The discharge of any hazardous, designated or non-hazardous waste as defined in Title 27, Division 2, Subdivision 1, Chapter 2 of the California Code of Regulations shall be conducted in accordance with applicable state and federal regulations.

23. During Project construction, included but not limited to construction and monitoring of wetlands, the Dischargers shall permit the Board or its authorized representative, upon presentation of credentials:

a. Entry on to the premises on which wastes are located or in which records are kept.

b. Access to copy any records required to be kept under the terms and conditions of this Order.

c. Inspection of any treatment equipment, monitoring equipment, or monitoring method required by this Order.

d. Sampling of any discharge or surface water covered by this Order.

Monitoring Report Provisions

24. All reports pursuant to these Provisions shall be prepared under the supervision of a suitable professional registered in the State of California.

25. The Dischargers shall comply with all applicable items of the SMP (Appendix E).

26. The Dischargers shall submit the following monitoring and maintenance reports:

a. Quarterly self-monitoring reports performed according to the SMP appended to this Order or as amended by the Executive Officer.

b. Wetland mitigation monitoring reports by November 15th of each year for a minimum of 5 years from the completion of construction at the mitigation site(s) (this time period may be increased based on the performance of the mitigation). Riparian vegetation shall be monitored for 10 years, or until performance criteria have been satisfied (this may require longer than 10 years on Napa Creek). Upon successful completion of the Wetland Mitigation and Monitoring Plan, the Dischargers shall submit a notice of mitigation completion to the Executive Officer. The notice of mitigation completion shall include a plan for long-term maintenance and management, acceptable to the Executive Officer, for the mitigation sites. After submittal of the acceptable notice of mitigation completion, submittal of annual mitigation monitoring reports is no longer required.

c. Annual O&M reports by April 15th of each year which describes the previous year's maintenance activities, monitoring activities required in the O&M manual, and the planned maintenance activities for the following year. The annual O&M report for year ten shall also include a Report of Waste Discharge for long-term maintenance activities necessary in all reaches of the Project after the initial ten years. This report shall include at a minimum, a description of all activities proposed to maintain long-term performance of all elements of the Project, the alternatives considered to those activities proposed, and the basis for the need of the activities proposed.

27. The Dischargers shall maintain one copy of as-built plans and submit one copy to the Board 90 days after the completion of each Project phase. These plans will be based on a re-survey of the channel and associated Project features after construction completion. These surveys

and plans will be done in adequate detail such that they can be used to evaluate the performance of the Project (e.g., degradation/aggradation rates, bank stability, etc.).

28. These Requirements do not authorize commission of any act causing injury to the property of another or of the public; do not convey any property rights; do not remove liability under federal, state or local laws, regulations or rules of other programs and agencies nor do these Requirements authorize the discharge of wastes without appropriate permits from other agencies or organizations.

29. The Dischargers shall submit to the Board copies of all necessary approvals and/or permits for the Project from the applicable government agencies, including CDF&G, and USFWS.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, complete and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on September 15, 1999.

Loretta K. Barsamian

Loretta K. Barsamian
Executive Officer

Attachments:

Figures 1-6
Appendices A-E

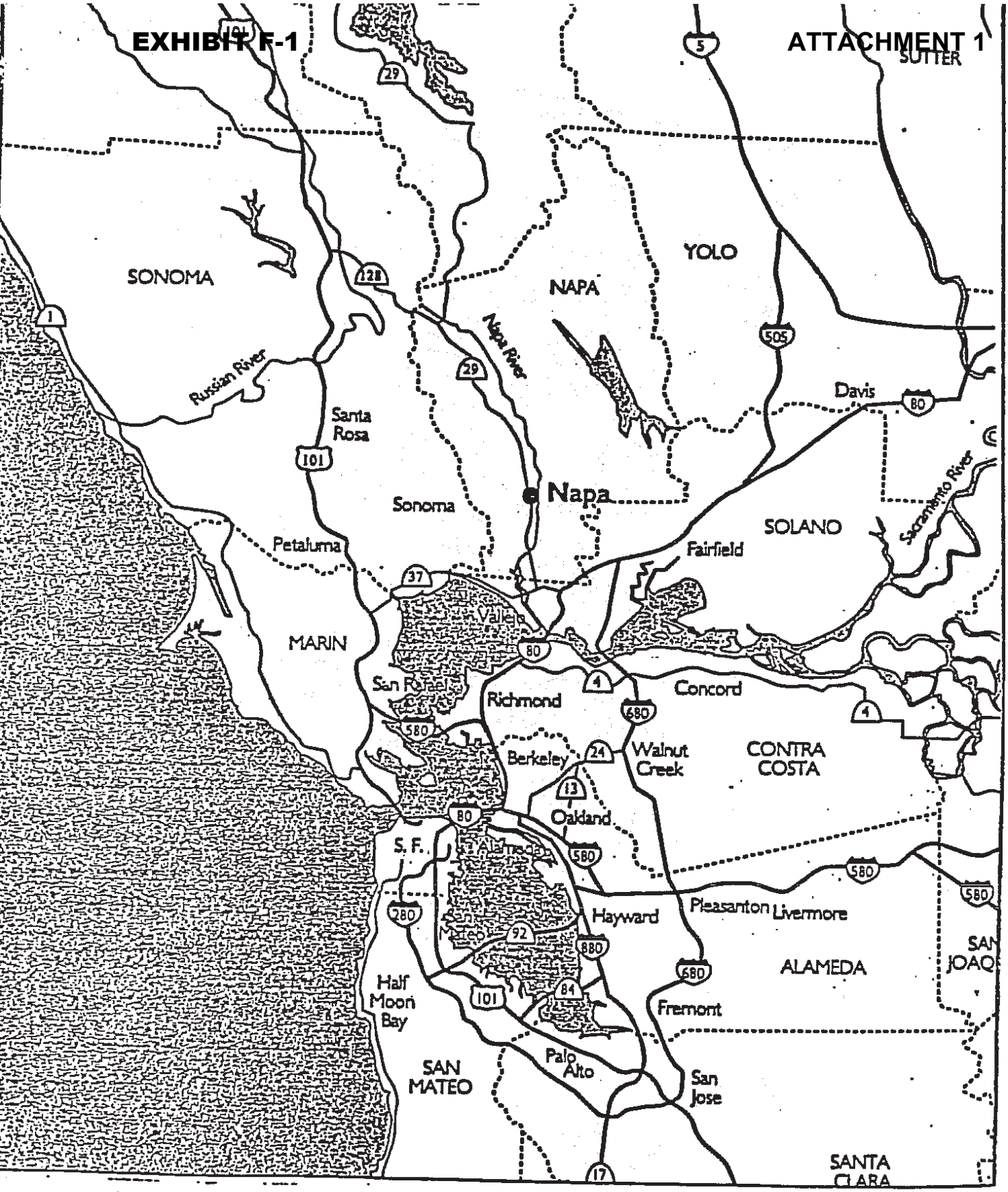


Figure 1. Regional location map for the Napa River Flood Damage Reduction Project area (source: DCE 1996).

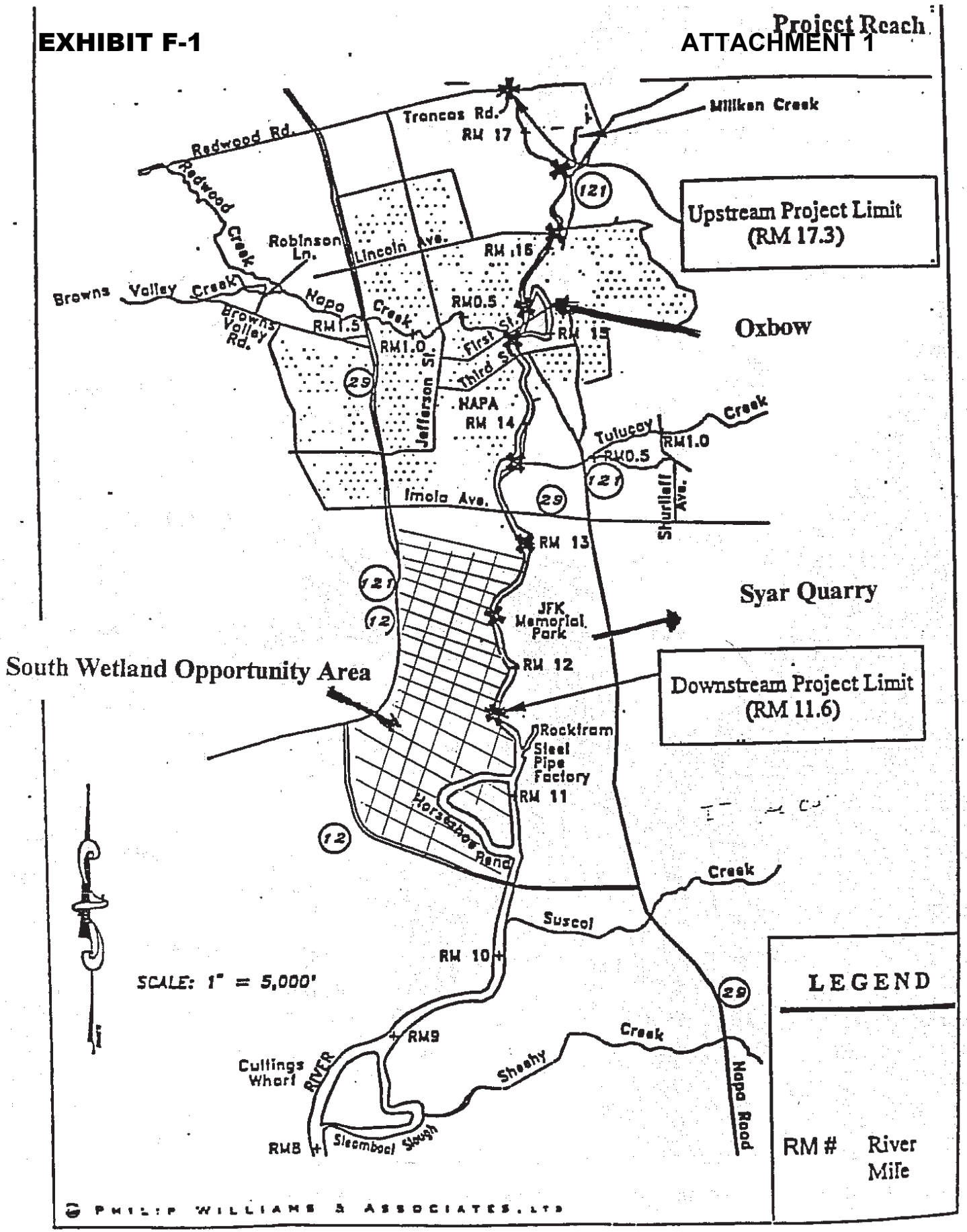


Figure 2. Napa River Project vicinity (source: PWA 1996).

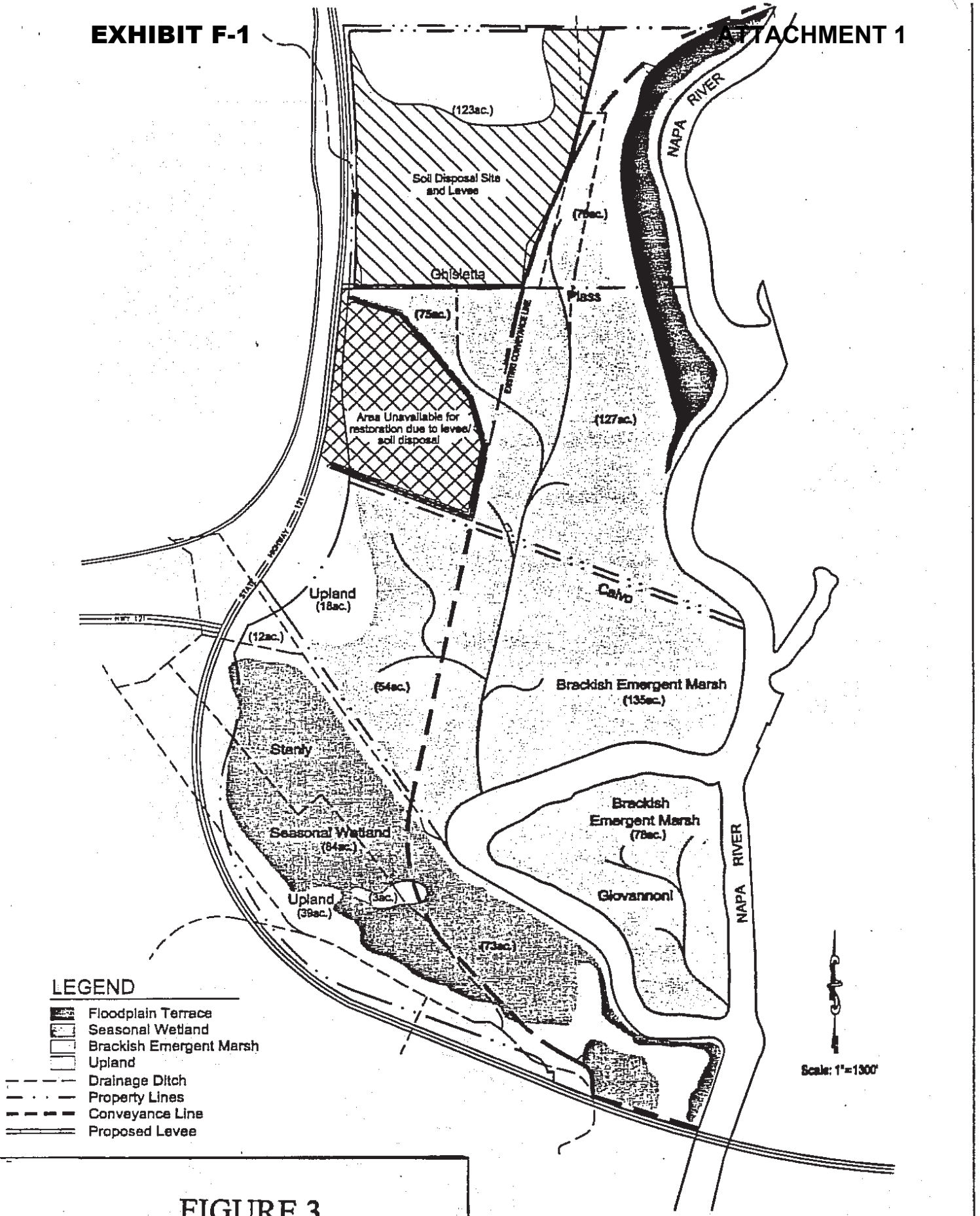


FIGURE 3

South Wetlands Opportunity Area
Post-enhancement conditions for the CEP

Figure 3.4-5

ATTACHMENT 1

EXHIBIT F-1

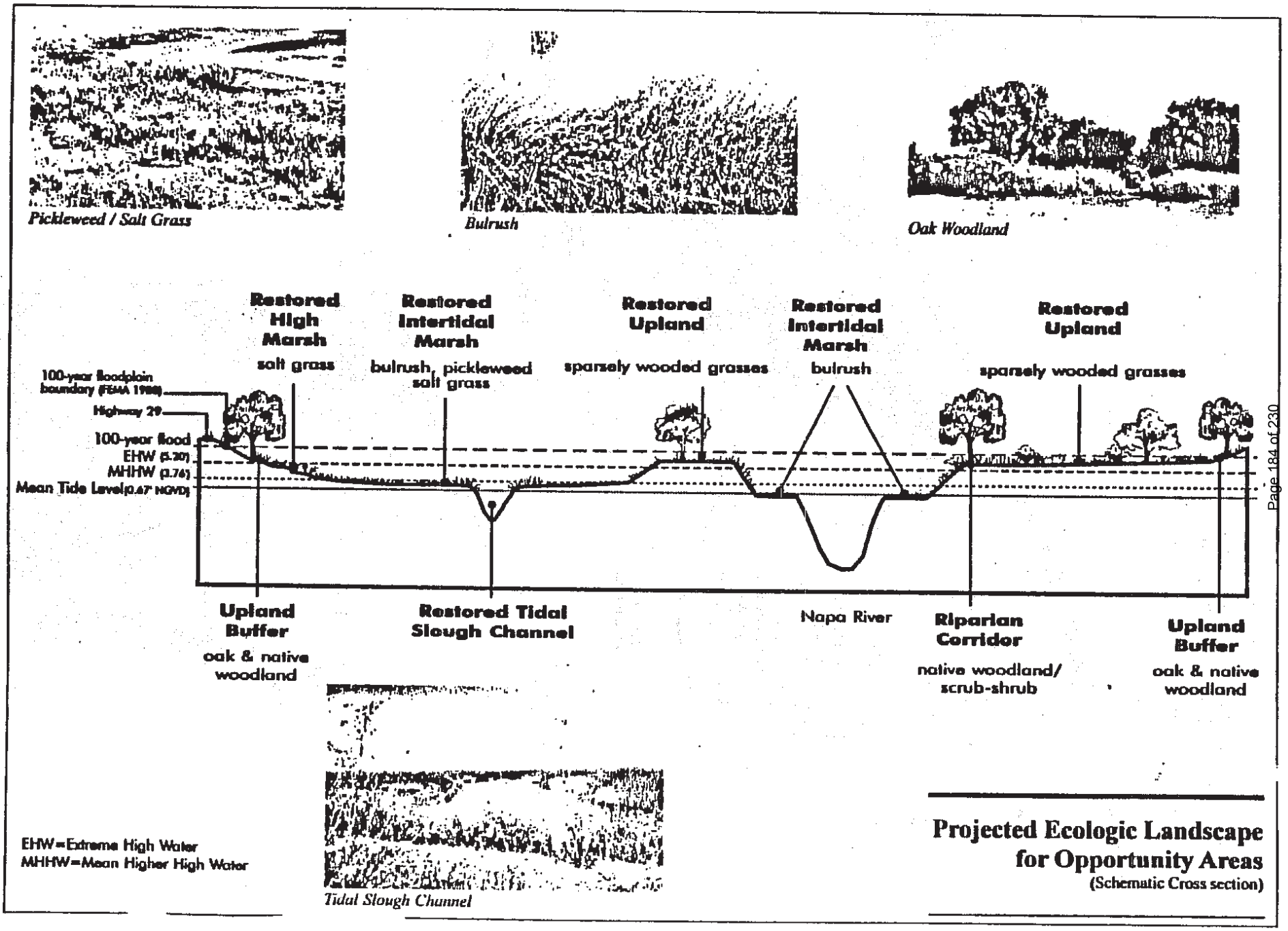
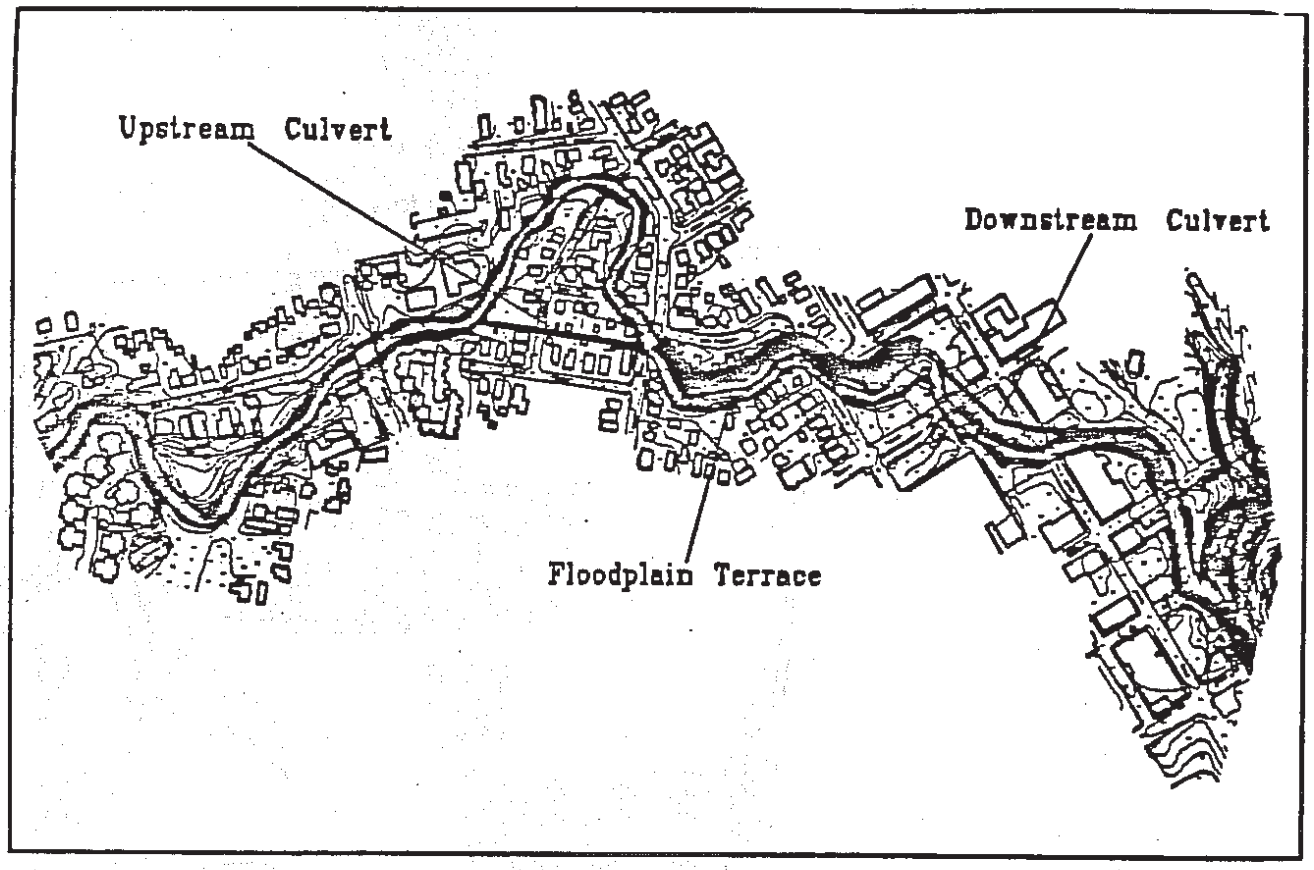


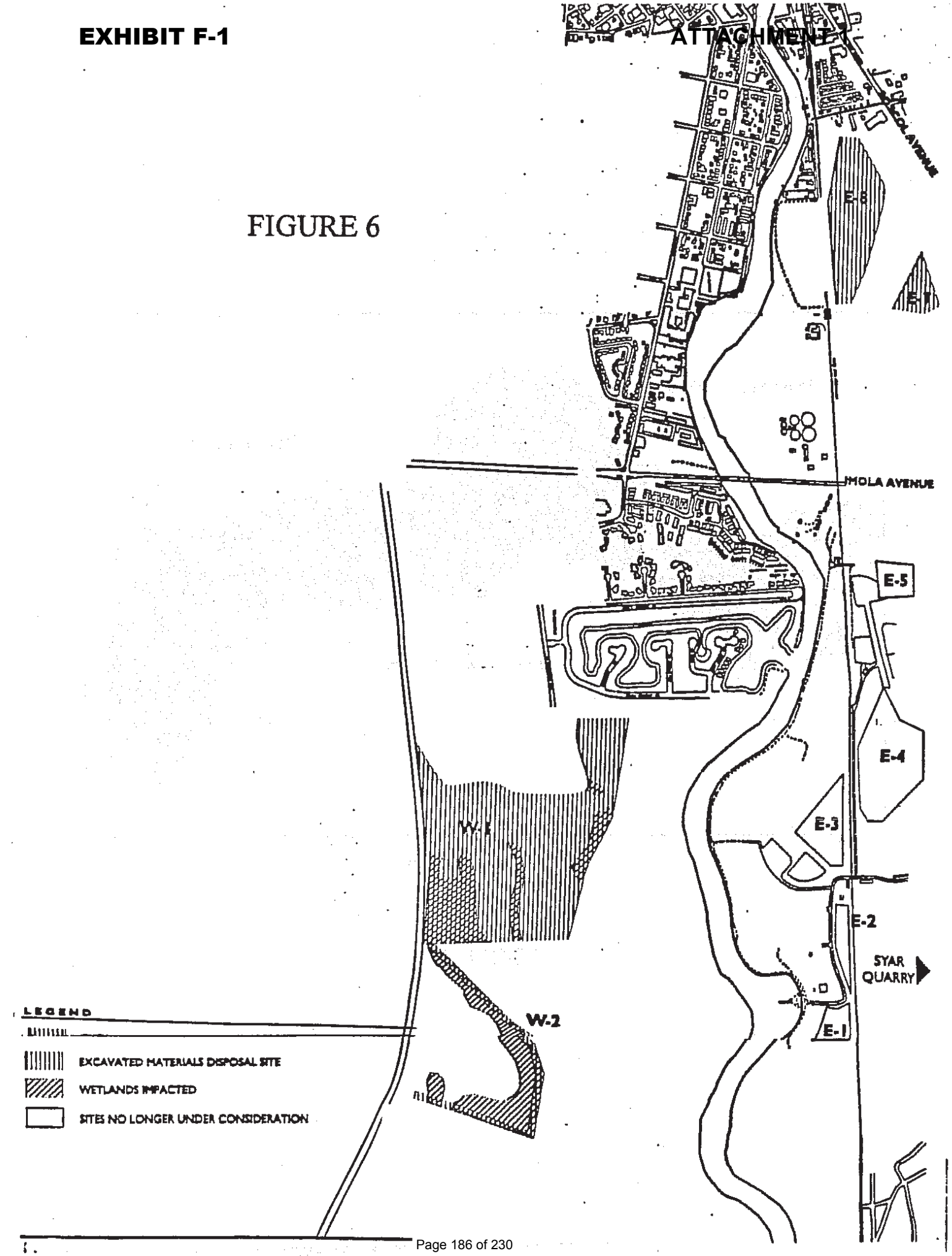
FIGURE 4



Napa Creek

FIGURE 5

FIGURE 6



PROPOSED EXCAVATED MATERIALS DISPOSAL SITES

APPENDIX A

Design Elevations (minimum elevations)

Design Element	Design Elevation
Marshplain Terrace	0.0 -1.5 NGVD (Average 0.7 NGVD) Elevation shall not go below 0.0 NGVD
Floodplain Terrace	see table below
Napa River dry bypass	Min. invert elevation = 4.8 ft. NGVD, Maximum invert elevation (flow control) = 11.5 NGVD
Napa Creek - Main to Pearl bypass culvert- Flow control elevation at upstream end (Sta. 14+50)	Invert elevation at STA 14+50 = 11 NGVD
Napa Creek- Behrens St. bypass Culvert- Flow control at upstream end (STA 38+00)	Invert elevation at STA 38+00 = 20.8 NGVD

Floodplain Terrace Elevations (minimum)[5]

Floodplain Terrace station (STA)	Approximate Floodplain Terrace Elevation (+/ - .5 ft.)
WEST BANK TERRACE	
620+00	3.7
637+00	4.0
650+00	4.3
675+00	5.2
677+00 end west bank terrace	5.3
EAST BANK TERRACE	
637+00	4.0
650+00	4.3
675+00	5.2
677+00	5.3
700+00	5.9
725+00	6.5
750+00	7.0
760+00 end east bank terrace	7.7

[5] Some areas may be lower to provide drainage off the terrace. These elevations will be determined through consolation with Mosquito Abatement District, CDF&G, NMFS, USEPA, NRCS and Board staff.

APPENDIX B

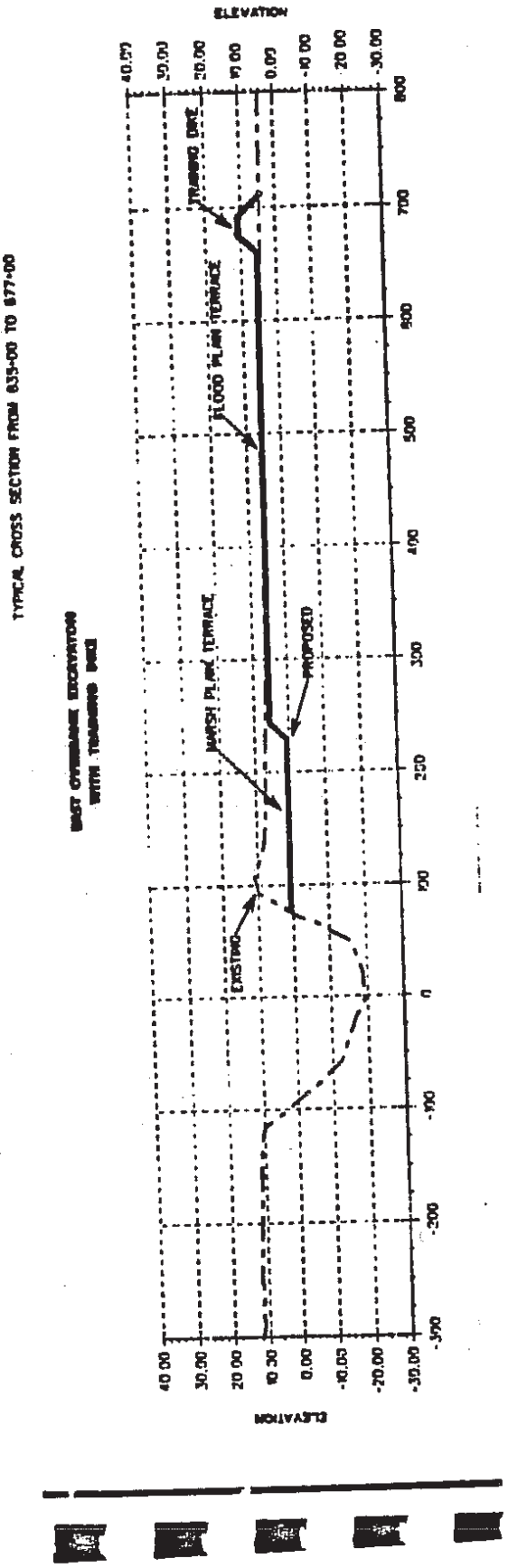
Critical Bank Treatment Features

Treatment	Elevations (NGVD)	Special Features
Treatment 1A-E	None	see SGDM design
Treatment 2	Maximum elevation of rip rap: -1.5 (+/- 1 ft.) (construction flexibility) Beginning pole cuttings or veg. : +2.0 (+/- 1 ft)	see SGDM design
Treatment 3	Maximum elevation of rip rap: 3.7 ft. Beginning pole cuttings or vegetation installed in rock. : +2.0 (+/- 1 ft)	3A: Rootwads min. 1per 50 ft. 3B: Lunkers min. 1 per 25 ft. 3C: Rootwads min 1 per 50 ft.

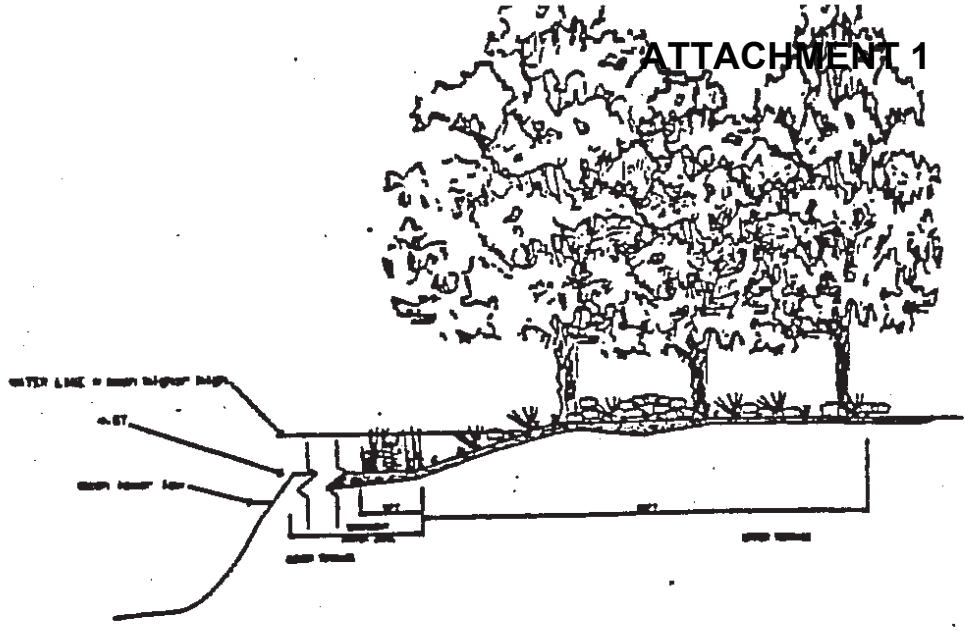
Locations of Bank Treatments and Rip Rap Removal

Station	Treatment
Right Bank	
620+00 to 664+00	1B
698+00 to 702+00	2
716+00 to 718+00	2
718+00 to 731+00	1A
731+00 to 760+00	2
760+00 to 774+00	vertical wall
782+00 to 789+00	3A
819+00 to 826+00	3A
826+00 to 844+00	1D
850+00 to 854+00	2
854+00 to 860+00	3A
887+00 to 992+00	3A
LEFT BANK (looking downstream)	
638+00 to 765+00	1C
659+00 to 710+00	1A
710+00 to 719+00	1B
719+00 to 724+00	1A
724+00 to 728+00	1B
728+00 to 737+00	1A
737+00 to 765+00	1B
765+00 to 774+00	1A
781+00 to 789+00	3A
789+00 to 792+00	2
792+00 to 805+00	3A
805+00 to 860+00	1E
659+00 to 743+00	Rip rap removal

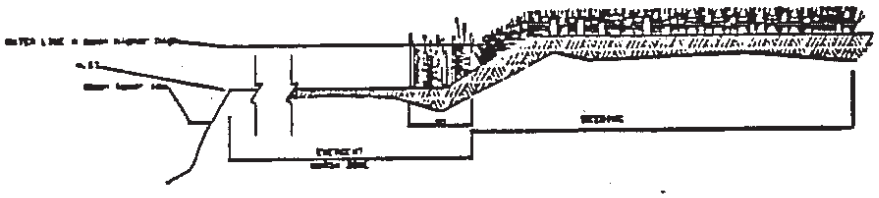
APPENDIX C


TYPICAL CROSS SECTION FROM 833+00 TO 877+00
MAT OVERBANK EXCAVATION
WITH TRAINING DIKE
ELEVATION
TRAINING DIKE
FLOOD PLAIN TERRACE
MARSH PLAIN TERRACE
PROPOSED
EXISTING
ELEVATION
40.00
30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00
800
700
600
500
400
300
200
100
0
-100
-200
-300

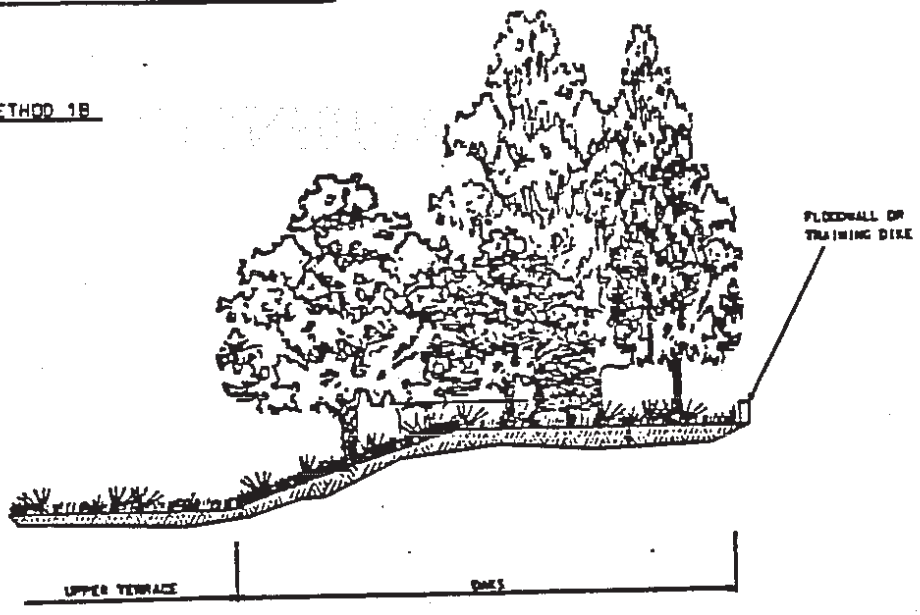
APPENDIX D



TREATMENT METHOD 1A
NOT TO SCALE



TREATMENT METHOD 1B
NOT TO SCALE

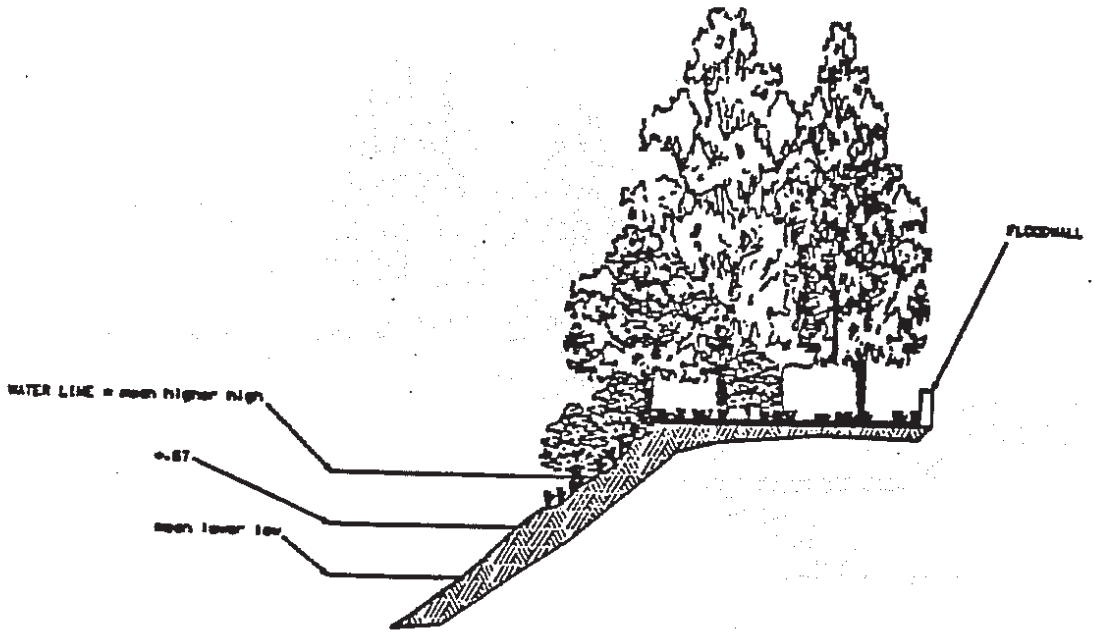


TREATMENT METHOD 1C
NOT TO SCALE

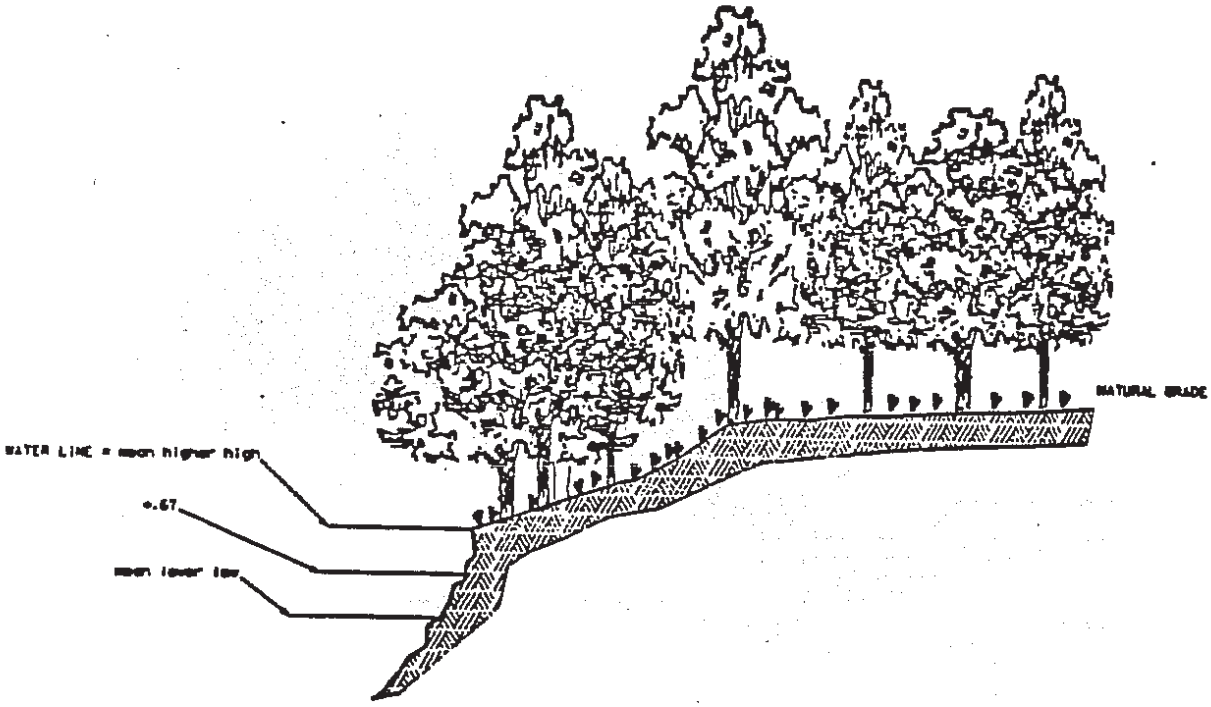
FIGURE 2-13

BANK STABILIZATION TREATMENT METHODS

NAPA RIVER/NAPA CREEK FLOOD PROTECTION PROJECT
SEIS/EIR



TREATMENT METHOD 1D
NOT TO SCALE

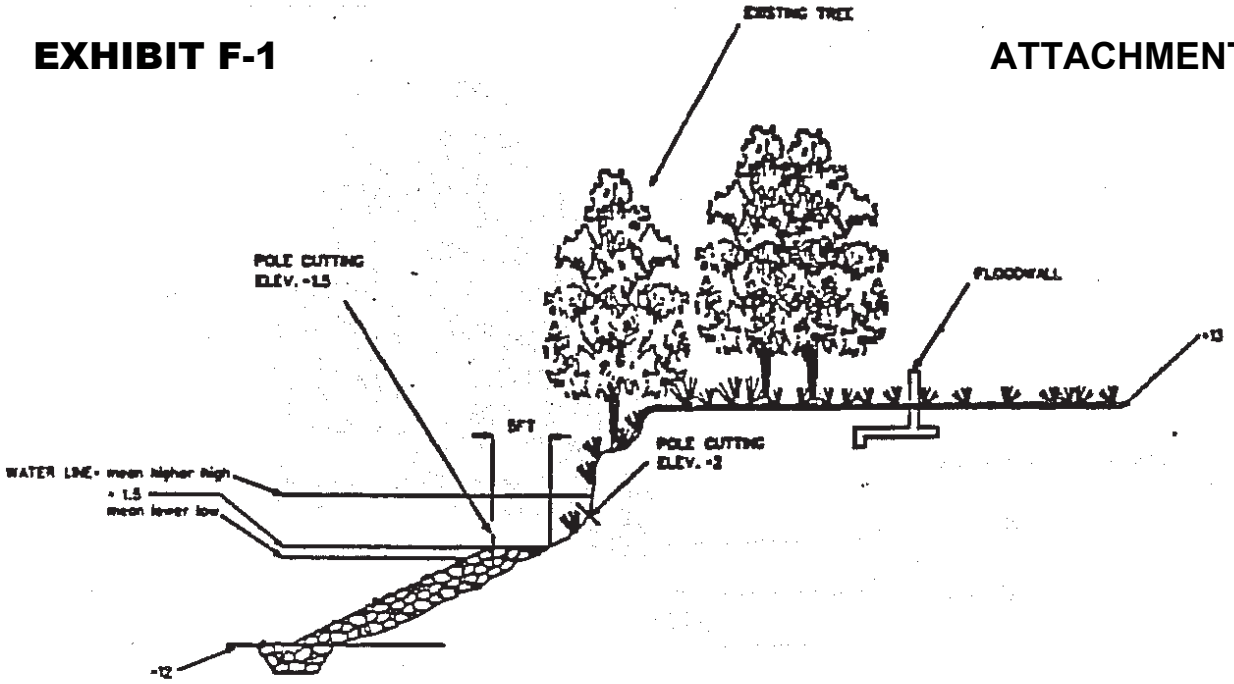


TREATMENT METHOD 1E
NOT TO SCALE

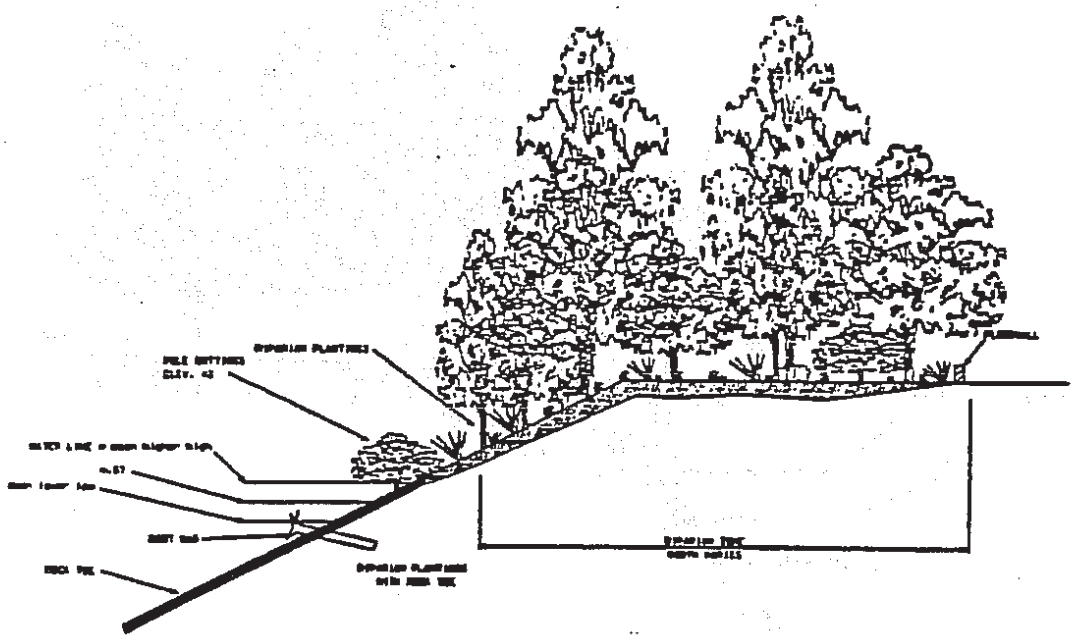
FIGURE 2-14

BANK STABILIZATION TREATMENT METHODS

NAPA RIVER/NAPA CREEK FLOOD PROTECTION PROJECT
SEIS/EIR



TREATMENT METHOD 2

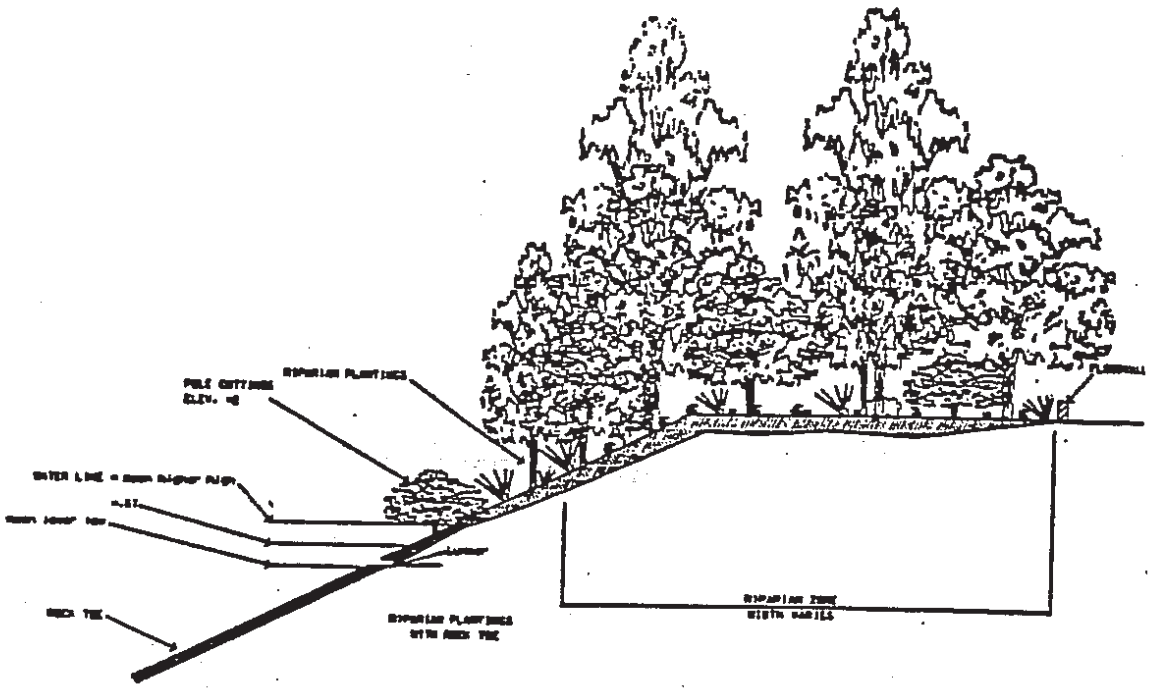


TREATMENT METHOD 3A

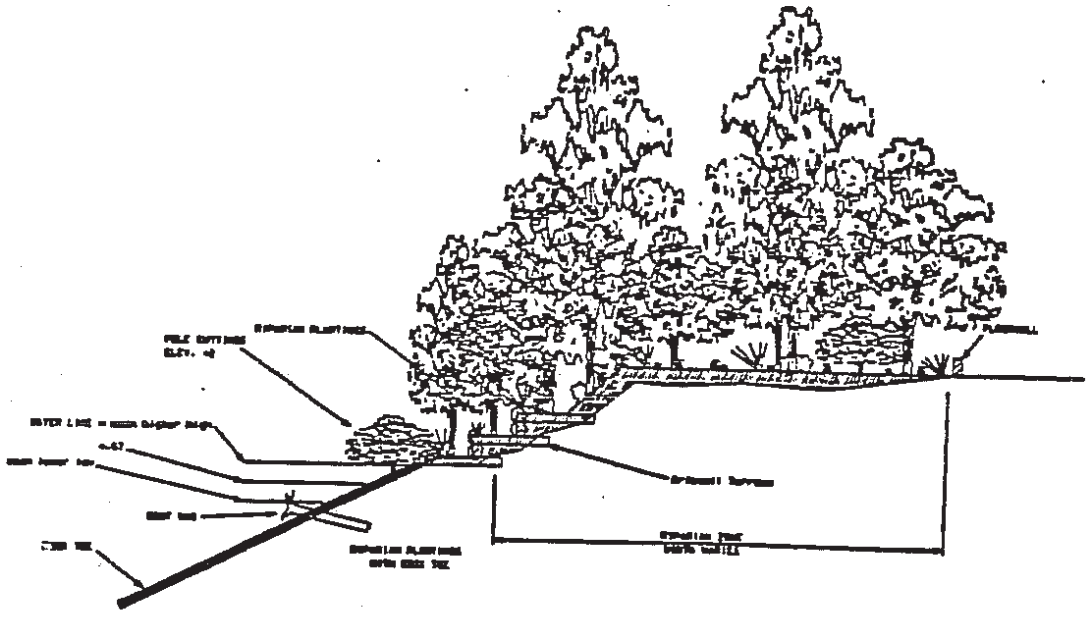
FIGURE 2-15

BANK STABILIZATION TREATMENT METHODS

NAPA RIVER FLOOD DAMAGE REDUCTION PROJECT
SEIS/EIR



TREATMENT METHOD 3B



TREATMENT METHOD 3C

FIGURE 2-16

BANK STABILIZATION TREATMENT METHODS

APPENDIX E

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

U.S. Army Corps Of Engineers And The Napa County Flood Control And Water Conservation District
Napa River/ Napa Creek Flood Protection Project, Napa County

ORDER NO. 99-074

CONSISTS OF

PART A

[Modified Standard Provisions]

and

PART B

[Site Specific Provisions]

NOTE: This SMP is not a substitute for the Stormwater Pollution Prevention Plan (SWPPP) for construction activities, which includes a monitoring component. This SWPPP shall be developed and implemented as specified in Provision C.18.

PART A.

I. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13268, 13383, and 13387(b) of the California Water Code and this Regional Board's Resolution No. 73-16.

The principle purposes of a monitoring program by a waste discharger, also referred to as a self-monitoring program, are:

1. To document compliance with waste discharge requirements and prohibitions established by this Regional Board; and

2. To facilitate self-policing by the discharger in the prevention and abatement of pollution arising from waste discharge.

II. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to Code of Federal Regulations Title 40, Section 136 (40 CFR S136), or other methods approved and specified by the Executive Officer of this Regional Board.

Water and waste analyses shall be performed by a laboratory approved for these analyses by the State Department of Health Services (DHS), or a laboratory waived by the Executive Officer from obtaining a DHS certification for these analyses.

The director of the laboratory whose name appears on the certification, or his/her laboratory supervisor who is directly responsible for the analytical work performed shall supervise all analytical work including appropriate quality assurance / quality control procedures in his / her laboratory and shall sign all reports of such work submitted to the Regional Board.

Field monitoring for pH, temperature and dissolved oxygen shall be conducted with monitoring instruments and equipment properly calibrated and maintained to ensure accuracy of measurements.

III. DEFINITION OF TERMS

A. A grab sample is defined as an individual sample collected in a short period of time not exceeding 15 minutes. Grab samples represent only the condition that exists at the time the sample is collected.

B. A flow sample is defined as the accurate measurement of the flow volume over a given period of time using a properly calibrated and maintained flow measuring device. Flows calculated from properly maintained pump usage records for an accurately calibrated pump are acceptable.

C. Standard Observations

Standard Observations are visual observations. Standard Observations shall be conducted from land from a location(s) which enables the observer to make the observations described in Part B accurately for each area where work is occurring. If necessary, the observer shall make observations from several locations to ensure accuracy.

PART B.

I. DESCRIPTION OF SAMPLING AND OBSERVATION STATIONS

A. Receiving Waters (Napa River).

Station	Description
A-1	A point shall be located immediately adjacent to construction activity.
A-D	The sampling point shall be within 1000 feet of the construction activity. Sample shall be taken at mid-depth of water column and at slack tide or ebb tide. If a plume of suspended sediment is obvious, the sample shall be taken within the plume.
A-U	Sampling point shall be at least 75 feet upstream of the construction activity. Sample to be taken at mid-depth of water column and taken at ebb tide. This is a background sample. If additional construction activities are occurring which may affect this sample, then this sample shall be located upstream above these activities, and location noted.

B. Land Observations

Station	Description
L1-Lx	Standard Observations shall be conducted from land from a location(s) which enables the observer to make the required observations accurately for each area where work is occurring. If necessary, the observer shall make observations from several locations to ensure accuracy.

II. SCHEDULE OF SAMPLING, MEASUREMENTS, AND ANALYSIS

A. The Dischargers are required to perform observations, sampling, measurements and analyses according to the schedule given in Table 1, below.

Table 1.
Schedule for Sampling, Measurements and Analyses

	Stations A1, AD, AU	Stations L1-Lx
Type of Sample	Grab	Observations
Parameter:		
Total Suspended Solids	Weekly/per episode[1]	
pH	Weekly/per episode	
Dissolved Oxygen	Weekly/per episode	
Temperature (C)	Weekly/per episode	
Turbidity (NTU)	Weekly/per episode	
Standard Observations		Daily/per episode[2]

B. Standard Observations

[1] "Episode" is defined as during construction activities which occur below High water (Higher High Water during timeframe of construction) and are not protected from tidal inundation by berm or other method. "Episode" also includes during any construction activity which the Discharger determines, in consultation with Board staff, may result in a discharge of sediment to the River.

[2] A record of Standard Observations shall be maintained on-site and available for Board inspection. Reports submitted to the Board shall only include a summary of Standard Observations as they pertain to compliance with this Order.

1. Equipment Observation: Observation of location and operation of equipment to ensure that equipment operation and location minimize sediment and habitat disturbance, and there are no discharges of pollutants to Waters of the State.

2. Manual Laborer Observation: Observation of manual laborers to ensure that activities minimize sediment and habitat disturbance, and there are no discharges of pollutants to Waters of the State.

3. Best Management Practices (BMPs) Observations: Observation of the BMPs installed in accordance with Provision C.2.d. of attached Order, to ensure that they are functioning properly and maintained.

4. Biological Resources and Habitat Observations:

a. Note any dead or obviously distressed aquatic life (e.g., fish, crabs) that may be associated with Project impacts.

b. Note any dead or obviously distressed wildlife that may be associated with Project impacts.

c. Observation of vegetation or other habitat features which have been specified not to be disturbed by Project construction, to ensure that this feature is properly identified and remains identified.

III. REPORTS TO BE FILED WITH THE REGIONAL BOARD

A. Self-Monitoring Reports

Written reports shall be filed regularly for each quarter of Project activity (ending July, October, January, and April). Reports shall be submitted to this Regional Board's office no later than the fifteenth day of the month following the end of each quarter. The reports shall consist of the following:

1. Letter of Transmittal

A letter transmitting the self-monitoring reports should accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for

implementing the corrective actions, reference to the previous correspondence will be satisfactory.

The transmittal letter shall contain a statement by the Discharger, or the Discharger's authorized agent, under penalty of perjury, that to the best of the signer's knowledge the report is true, accurate and complete.

2. Results of Analyses and Observations

Tabulations of the results from all required analyses specified in Table 1 by date, time, type of sample, and sample station. Standard Observations shall be summarized to discuss compliance with relevant conditons of the attached Order (Data sheets need not be included).

B. Spill Reports

A report shall be made of any spill of oil or other hazardous material. Spills shall be reported immediately to this Regional Board, at (510) 622-2300 during business hours, and during non-business hours, Office of Emergency Services (OES) at 1-800-852-7550. Any after hours spill which is reported to OES, shall be reported to the Board the following day by phone. A written report shall be filed with the Regional Board within five (5) working days and shall contain information relative to:

a. Nature of waste or pollutant
b. Quantity involved
c. Duration of incident
d. Cause of spill
e. SPCC Spill Prevention and Containment Plan in effect, if any
f. Estimated size of affected area
g. Nature of effects (i.e., fishkill, discoloration of receiving waters, etc.)
h. Corrective measures that have been taken or planned, and a schedule of these activities
i. Persons notified.

C. Report of Permit Violation

In the event the Discharger violates, or threatens to violate the conditions of the waste discharge requirements and prohibitions due to:

a. Maintenance work, power failure, or equipment breakdown;

b. Accidents caused by human error or negligence; or

c. Other causes such as acts of nature,

The **Discharger shall notify the Regional Board office and California Department of Fish and Game (CDF&G), by telephone as soon as the Discharger or the Discharger's agents have knowledge of the incident. Written confirmation of this notification shall be submitted within two weeks of the telephone notification to the Regional Board.** The written notification shall include pertinent information explaining reasons for the non-compliance and shall indicate what steps were taken to correct the problem and the dates thereof, and what steps are being taken to prevent the problem from recurring.

D. Additional Notifications

In the event dead or distressed aquatic life or wildlife are observed, which may be the result of Project impacts, the Board (510)622-2300 and CDF&G (707) 944-5512, shall be notified immediately.

I, Loretta K. Barsamian, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in the Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No.99-074

2. Is effective on the date shown below.

3. May be revised at any time after the effective date by the Executive Officer.

Loretta K. Barsamian

LORETTA K. BARSAMIAN
Executive Officer

Effective Date September 15, 1999

STATE OF CALIFORNIA THE RESOURCES AGENCY ARNOLD SCHWARZENEGGER, GOVERNOR
DEPARTMENT OF FISH AND GAME
BAY DELTA REGION
(707) 944-5520
Mailing address:
POST OFFICE BOX 47
YOUNTVILLE, CALIFORNIA 94599
Street address:
7329 SILVERADO TRAIL
NAPA, CALIFORNIA 94558

Long-term Agreement
Notification Number: 1600-2008-0420-3
Napa River, Napa County

Daisy Lee
Napa County Flood Control and Water Conservation District
804 First Street
Napa, CA 94559

PROJECT DESCRIPTION and PROJECT CONDITIONS

Description:

The Applicant, the Napa County Flood Control and Water Conservation District (NCFCWCD), is proposing to implement and complete construction associated with the Napa River/Napa Creek Flood Protection Project (Project). Those Activities, collectively described below under the heading "Contract 2 and Contract 3 Activities and Areas," are described below in greater detail. The project site is located within and around the riparian, floodplain, streambed and bank zone, and wetlands of the Napa River, specifically beginning near the Butler Bridge (Highway 29/121) upstream to Trancas Avenue and Napa Creek from Jefferson Street to the confluence with the Napa River in the city of Napa, California. Construction of the Project began in 2000 and originally proposed to be completed in 2006. Due to ongoing federal funding shortfalls, the Project is now projected to be completed in 2018. The project is necessary to provide the City of Napa with flood protection from 100-year storm events and additionally has been designed to create and enhance natural habitat including the creation of wetlands, marshplain/floodplain terraces, and selective removal of existing levees, setback levees, bypass channels and biotechnical bank stabilization.

Covered Activities and Areas:

Contract 2 - Imola Avenue to Third Street

West Bank - The Project proposes floodwall from Imola to the Napa River Inn. In areas of existing or potential erosion due to high velocities or where floodwalls need protection, protection will be provided using biotechnical and bank stabilization methods shown in Appendix J of the October 1998 Final Supplemental General Design Memorandum (SGDM). In areas where floodwall setback is reduced, a sheet pile wall will be driven below ground and incorporated into the toe of the floodwall. This sheet pile wall will extend to below the bottom of the existing channel. A pump station and detention basin will be located immediately north of the Maxwell Bridge.

East Bank - A prefabricated footbridge will join the recreation trail over New Tulocay Creek. The floodwall begins at STA 731+00 and continues to STA 771+00. Bank stabilization will be required to ensure that erosion does not undermine the floodwall and cause a breach in this flood protection measure. In areas of existing or potential erosion due to high velocities, protection will be provided using biotechnical methods, as shown in Appendix J of the SGDM.

A pump station will be located just north of the New Tulocay Creek levee (Sta 725+00). The

pump station will be located at the end of an existing drainage swale which brings local drainage to an outlet through the New Tulocay Levee. This outlet will be modified and incorporated into the pump station. The pump station will be sited to avoid delineated wetlands in the area and will be operated in a manner that will not modify the wetland characteristics of the delineated wetlands in this area.

Contract 3 - Third Street to Trancas Avenue

Oxbow - The Project proposes a floodwall around the existing oxbow channel. A depressed backyard between Taylor and Post Streets on the east side of the oxbow will be filled in and the floodwall constructed on top. The floodwall extent is approximately 3,600 feet on the east bank. Existing erosion on the east bank of the oxbow will be stabilized using biotechnical measures and the methods shown in Appendix J of the SGDM. These banks must be stabilized to protect floodwalls constructed at the top of bank. The existing Wine Train Railroad Bridge and First Street Bridge, both over the Napa River, do not provide adequate capacity for the design flows and therefore they will be replaced. Pipe piles to be driven within Napa River for the Railroad Bridge construction shall be no larger than 24-inch in diameter unless approved by DFG.

Oxbow Bypass - The Project includes a dry bypass with its entrance invert set above most tides. The dry bypass will only convey flows that are greater than approximately the 2-year event and allows most low flows to continue through the oxbow. By maintaining low flows in the oxbow, water quality impacts and concerns with siltation in the oxbow are minimized. The dry bypass channel would be 1,300 feet in length with a channel bottom width that ranges from 200 feet to 300 feet with 1:V to 2.5:H side slopes. Erosion protection, due to high velocities, will be provided in the bypass as well as at the entrance and exit of the bypass. The rock at the exit of the bypass will extend partly into the new mouth of Napa Creek and wrap into the oxbow. It will also extend downstream to protect the west bank of the river. McKinstry Street will be reconstructed through the bypass. Closure structures will be placed on the realigned McKinstry Street as it crosses the bypass. A pump station will be constructed just north of the bypass between Soscol Avenue and the railroad track. Floodwalls will be located intermittently on both banks of the bypass tying into high ground. A new railroad bridge will be constructed over the future dry bypass channel.

Randean Way to Lincoln Avenue -Where opportunities exist along the west bank, biotechnical measures will be used to help stabilize the banks and to improve riparian habitat. This improvement serves as mitigation for riparian impacts elsewhere in the project. Floodwalls along with a maintenance/recreation trail will be constructed on the west side of the river from Randean Way to Lincoln Avenue.

Lincoln Avenue to Trancas Street -The project features in this reach includes floodwalls, bridge erosion protection, bank stabilization, raising of existing levee with the construction of a maintenance road, and a separate recreation trail.

Contract 4 - Napa Creek

Napa Creek - The Project features in this reach include channel work in Napa Creek. Napa Creek conveyance will be increased by construction of a flood plain terrace on the north overbank of the creek, the removal of three bridges, and construction of two culvert bypasses. The Behrens Street Bridge and the Coombs Street Bridge will be removed and replaced with pedestrian bridges. The Brown Street Pedestrian footbridge will be demolished and will not be replaced.

Beginning just downstream of Main St. (Station 8+00) a concrete dry bypass culvert will be constructed on the north bank extending to just upstream of Pearl St. (Station 14+50). This culvert will consist of two, 10 foot wide by 12 foot high, concrete box culverts and will be approximately 450 feet long. The architectural work on the south bank, between station 10+00 (Main St.) and station 12+00 (Pearl St.), will be removed to increase the capacity of this reach. Bank erosion and scour protection in

this reach includes: rock/rootwad revetment from 6+25 to 7+50 on the north bank, rock riffles for grade control at stations 7+75 and 9+00, rock protection at the inlet and outlet, and rock scour aprons in areas of expected sour.

At Station 15+00 an overbank flood plain terrace will be constructed. The width of the terrace will vary from 15' to 50'. Seminary Street (Station 25+50) is the end of the flood plain terrace. Riparian vegetation will either remain or be removed and replaced with native plantings along this stretch of the channel. Bank erosion and scour protection in this reach includes: in water woody material barbs at about station 15+00, softening the sharp bend at 15+25 by grading back the south bank, log barbs at station 16+00 and 18+25, realigning the channel to the north from station 18+00 to 24+00, rock/rootwad revetment from 22+50 to 24+00 on the south bank and rock scour aprons in areas of expected sour. The south slopes will also be regarded and replanted with native plantings from station 20+50 to 24+00 due to existing instability.

Beginning at Seminary Street a concrete dry bypass culvert will be constructed in an alley between Center and Earl Streets. The entrance of the culvert will be a weir, 100 feet long. This culvert will be two, 10 foot wide by 12 foot high, concrete box culverts and will be approximately 580 feet long. The culvert will exit below Seminary Street. Bank erosion and scour protection in this reach includes: rock riffles for grade control at stations 37+00, 39+00 and 41+00, rock protection at the inlet and outlet, and rock scour aprons in areas of expected scour.

Resources at Risk:

The lower Napa River watershed supports habitat for several species including Central California Coast Steelhead *(Oncorhynchus mykiss)*, Chinook Salmon (*Oncorhynchus tshawytscha*), Delta smelt *(Hypomesus transpacificus),* longfin Smelt (*Spirinchus thaleichthys*), northwestern pond turtle (*Actinemys marmorata marmorata*), salt marsh common yellowthroat (*Geothlypis trichas sinuosa*), pallid bat (*Antrozous pallidus*) and other aquatic and terrestrial species. California Department of Fish & Game (DFG) staff has visited the project site to review regulatory requirements for the proposed project.

Protective Terms and Conditions:
The following Terms and Conditions are intended to reduce, avoid, and minimize impacts to fish and wildlife resources:

1. Construction below the top of bank as determined by the break in slope shall be confined to the period June 1st to October 15th to minimize adverse impacts to fish and wildlife resources and their habitats. If the Applicant finds more time is needed to complete the authorized activity, the work period may be extended in writing on a week-by-week basis by a local Department of Fish and Game representative.

2. NCFCWCD shall submit draft (65 and 95 percent design level) plans of the proposed Oxbow Bypass (Contract 3) and Napa Creek (Contract 4) elements of the Project to DFG for review and approval. DFG shall provide comments or approval to NCFCWCD on the draft plans no later than 60 calendar days after receiving the plans and any other information that DFG deems necessary to make such a determination and requests. Should new, revised, or supplemental plans be submitted subsequent to the first submittal, the 60 calendar days review and approval process shall reset from the date of subsequent submittal.

3. During in-stream construction activities in Napa Creek (June 1st to October 15th) NCFCWCD or the on site contractor shall provide a monthly status report of the previous months in-stream work to DFG. The monthly status report shall be submitted to DFG in writing or by email to Corinne Gray at cgray@dfg.ca.gov.

4. At least 10 working days prior to commencement of covered Activities, the NCFCWCD shall notify DFG in writing or by email of its intent to commence Activities. Email notification shall be made to Corinne Gray at cgray@dfg.ca.gov.

5. This Agreement shall be valid for a period of 12 years and shall expire on December 31, 2021. To extend the Agreement beyond the expiration date, a written request for an extension must be submitted to DFG at the above address at least 30 days before the Agreement's expiration date. Renewal requires a fee. Renewals of the original Agreement are issued at the discretion of DFG.

6. River/stream banks, slopes and flood plain areas shall only be planted only with locally propagated native riparian scrub, tree and grass species and shall be seeded, mulched and fertilized with local native species. A revised planting plan shall be submitted to DFG for approval prior to contracting for collection and propagation. All upland planting shall begin after sufficient rainfall has occurred to ensure the best chance of survival of the scrubs, trees, and seedlings. Planting techniques can include seed casting, hydroseeding, or live planting methods using the techniques in Part XI of the Manual. The most current version of the manual is available at: http://www.dfg.ca.gov/habitats.

7. All invasive plant species within the construction area shall be removed or managed according to the Invasive Plant Control Plan (IPCP) prepared by NCFCWCD for the Project and areas denuded of vegetation shall be replanted with locally propagated native tree and shrub species as specified above and/or in the IPCP.

Vegetation monitoring:

8. The Permittee shall implement the Bank Stabilization and Mitigation Plan (Appendix J) of the Final Supplemental General Design Memorandum, Vol. II dated October 1998 except as revise below. The final design shall be provided to DFG for review and concurrence prior to construction:
    a. During final design review the Permittee shall confer with DFG regarding all rock installation areas for appropriate location of placement of soil chocked native plantings between mean high and low water levels.
    b. All plantings shall be from locally collected propagules within the Napa River basin. Propagules from outside of the Napa River basin can only be used with written approval from DFG.

9. To ensure a successful revegetation effort, all plantings shall be monitored and maintained, including irrigation, if necessary initially for three years. All plantings shall have a minimum of 80% success at the end of 3 years. If the survival and/or cover requirements are not meeting these goals, the Applicant is responsible for replacement planting, additional watering, weeding, invasive exotic eradication, or any other practice, to achieve these requirements. Replacement plants shall be monitored with the same survival and growth requirements for three years after planting. Additionally, the applicant shall adhere to those monitoring requirements as defined in the *Napa River Flood Protection Project Mitigation and Monitoring Plan* (MMP), prepared by Jones and Stokes Associates (2001) or as amended. The MMP's monitoring objective is to systematically and quantitatively measure changes in vegetation, soils, and hydrology over a 40-year period. Vegetation monitoring indicators, as described in the MMP, are measurable parameters that define the biological, chemical, or physical conditions or processes of a site. The parameters are measured at two scales: (1) aerial photography interpretation at the office to initially assess the types and aerial extents of habitats, and (2) ground-truthing at the study area to verify and/or modify the boundaries of the habitat types and vegetation monitoring at the study area along permanent transects to document the floristic composition and other ecological parameters associated with each habitat type.

Long Term Monitoring and Reporting Requirements:

10. NCFCWCD shall provide a status report to DFG every four years. The status report shall be delivered to DFG no later than 90 days prior to the end of each four-year period, and shall include all of the following information:
    a) A copy of the original agreement.
    b) The status of the activity covered by the agreement.
    c) An evaluation of the success or failure of the measures in the agreement to protect fish and wildlife resources that the activity may substantially adversely affect.
    d) A discussion of any factors that could increase the predicted adverse impacts on fish and wildlife resources, and a description of the resources that may be adversely affected.

    DFG shall review the four-year status report, and conduct an onsite inspection to confirm that the entity is in compliance with the agreement and that the measures in the agreement continue to protect the fish and wildlife resources. If DFG determines that the measures in the agreement no longer protect the fish and wildlife resources that are being substantially adversely affected by the activity, DFG, in consultation with NCFCWCD, and within 45 days of receipt of the report, shall impose one or more new measures to protect the fish and wildlife resources affected by the activity. If requested to do so by NCFCWCD, DFG shall make available the information upon which it determined the agreement no longer protects the affected fish and wildlife resources.

11. This agreement shall authorize DFG employees to conduct onsite inspections relevant to the agreement, upon reasonable notice. Nothing in this section limits the authority of DFG employees to inspect private or public sites.

Nesting Bird Surveys:

12. If tree removal occurs during the nesting season of protected raptors and migratory birds (February 15 to August 15), a focused survey for active nest of such birds shall be conducted by a qualified biologist (as determined by a combination of academic training and professional experience in biological sciences and related resource management activities) within 15 days prior to the beginning to Project-related activities. The results of the survey shall be faxed to (707) 944-5595. Refer to Notification Number 1600-2008-0420-3 when submitting the survey to DFG. If this survey finds evidence of such nesting work shall be postponed until August 15.

Diversion/de-watering structures and fish relocation:

13. The Permittee shall submit a Fish Rescue Plan to be implemented during cofferdam dewatering operations for DFG approval prior to any in water work. Measures shall be taken to minimize harm and mortality to listed salmonids and/or smelt resulting from fish relocation and dewatering activities:

    a. All electro-fishing shall be performed by a qualified fisheries biologist and conducted according to the National Marine Fisheries Service *Guidelines for Electro-fishing Waters Containing Salmonids Listed Under the Endangered Species Act*, June 2000.
    b. Any captured wildlife/fish shall be relocated immediately upstream or downstream the project area to suitable habitat for the particular species.

14. Pumps used to dewater the area behind the cofferdam will be screened to protect aquatic species. Pumps used to dewater cofferdams shall be screened as follows:

    a. Perforated plate: screen openings shall not exceed 3/32 inches (2.38 mm), measured in diameter.

b. Woven wire: screen openings shall not exceed 3/32 inches (2.38 mm), measured diagonally.
c. Screen material shall provide a minimum of 27% open area.
d. Approach velocity shall not exceed 0.33 feet per second.

Disturbance, disposal and removal of materials:

15. The disturbance or removal of sediment or vegetation shall not exceed the minimum necessary to complete project. Precautions shall be taken to avoid other damage to vegetation by people or equipment. The disturbed portions of the stream bank within or above the normal high-water mark of the stream shall be restored to as near their original condition as possible.

16. Building materials and/or construction equipment shall not be stockpiled or stored where they could be washed into the water or where they will cover aquatic or riparian vegetation.

17. The contractor shall not dump any litter or construction debris within the riparian/stream zone. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site.

Erosion control measures:

18. No phase of the each activity may be started if that phase and its associated erosion control measures cannot be completed prior to the onset of a storm event if that construction phase may cause the introduction of sediments into the stream. Seventy-two-hour weather forecasts from the National Weather Service shall be consulted prior to start up of any phase of the project that may result in sediment runoff to the stream.

19. All exposed/disturbed areas within the project site shall be stabilized to the greatest extent possible. Erosion control measures such as straw wattles, straw mulch, and hydro-seeding (utilizing a native mix) shall be used where ever silt laden water has the potential to leave the work site and enter State waters. Erosion control measures shall be monitored during and after each storm event. Modifications, repairs and improvements to erosion control measures shall be made whenever it is needed.

20. All construction debris and associated materials shall be removed from the work site upon completion of this project. Any equipment or vehicles driven and/or operated within or adjacent to the site shall be cleaned of all external oil, grease, and materials that, if introduced to water, could be deleterious to aquatic life, wildlife or riparian habitat. Stationary equipment such as motors, pumps, generators, and welders, located within or adjacent to the creek shall be positioned over drip pans.

21. Freshly poured concrete for maintenance activities shall be isolated from flowing water for a period of 30 days. Commercial sealants may be applied to the poured concrete surface where difficulty in excluding water flow for a long period may occur. If sealant is used, water shall be excluded from the site until the sealant is dry.

Refueling of equipment and Hazardous materials storage:

22. Refueling of mobile and/or portable equipment will not occur within 200 feet of a drainage or water body. When circumstances do not permit this, refueling of sedentary equipment will use catch basins and absorbent pads while refueling within 200 feet of a drainage or water body.

23. Hazardous materials (fuels, lubricants, solvents, etc.) will not be stored within 200 feet of a drainage or water body.

General Conditions:

24. This agreement does not authorize the take any California Species of Special Concern, State or federally listed threatened or endangered species.

25. Department personnel or its agents may inspect the work site at any time. A copy of this agreement must be provided to the Contractor and all subcontractors who work within the stream zone and must be in their possession at the work site.

26. In the event that the project scope, nature, or environmental impact is altered by the imposition of subsequent permit conditions by any local, state or federal regulatory authority, the Applicant shall notify DFG of any imposed project modifications that interfere with compliance to DFG conditions.

27. The Applicant is liable for compliance with the terms of this Agreement, including violations committed by the contractors and/or subcontractors. DFG reserves the right to suspend construction activity described in this Agreement if DFG determines any of the following has occurred:
    A). Failure to comply with any of the conditions of this Agreement
    B). Information provided in support of the Agreement is determined by DFG to be inaccurate.
    C). Information becomes available to DFG that was not known when preparing the original conditions of this Agreement (including, but not limited to, the occurrence of State or federally listed species in the area or risk to resources not previously observed)
    D).The project as described in the Agreement has changed or conditions affecting fish and wildlife resources change.

Any violation of the terms of this Agreement may result in the project being stopped, a citation being issued, or charges being filed with the District Attorney. Contractors and subcontractors may also be liable for violating the conditions of this agreement.

Amendments and Extensions

The Applicant shall notify DFG before any modifications are made in the project plans submitted to DFG. Project modifications may require an amendment or a new notification.

This Agreement is transferable to subsequent owners of the project property by requesting an amendment.

To extend the Agreement beyond the expiration date, a written request or completed "Request to Extend Lake or Streambed Alteration Agreement" form, with an appropriate fee, must be submitted to DFG (1600 Program, Post Office Box 47, Yountville, California 94599) for consideration at least 30 days before the Agreement expiration date. An extension requires a fee. The Fee Schedule and Extension form can be obtained at www.dfg.ca.gov/habcon/1600/Forms.html or by phone at (707) 944-5520. Extensions of the original Agreement are issued at the discretion of DFG.

To modify the project, a written request for an amendment or a completed "Request to Amend Lake or Streambed Alteration Agreement" form, with an appropriate fee, must be submitted to DFG (1600 Program, Post Office Box 47, Yountville, California 94599). An amendment requires a fee. The Fee Schedule and Amendment form can be obtained at www.dfg.ca.gov/habcon/1600/Forms.html or by phone at (707) 944-5520. Amendments to the original Agreement are issued at the discretion of DFG.

Please note that you may not proceed with construction until your proposed project has undergone CEQA review and DFG signs the Agreement.

I, the undersigned, state that the above is the final description of the project I am submitting to DFG for CEQA review, leading to an Agreement, and agree to implement the conditions above required by DFG as part of that project. I will not proceed with this project until DFG signs the Agreement. I also understand that the CEQA review may result in the addition of measures to the project to avoid, minimize, or compensate for significant environmental impacts:

Applicant's name (print): Daisy Lee

Applicant's signature: Daisy Lee

Signed the 19 **day of** October **, 2009**

California Department of Fish and Game
Bay Delta Region

California Endangered Species Act
Incidental Take Permit No. **2081-2008-014-03**

Napa County Flood Control and Water Conservation District
Napa River Flood Protection Project

Authority: This California Endangered Species Act (CESA) Incidental Take Permit (ITP) is issued by the Department of Fish and Game (DFG) pursuant to Fish and Game Code section 2081, subdivisions (b) and (c), and California Code of Regulations, Title 14, Section 783 et seq. CESA prohibits the take[1] of any species of wildlife designated as an endangered, threatened, or candidate species[2] by the Fish and Game Commission. DFG, however, may authorize the take of such species by permit if the conditions set forth in Fish and Game Code section 2081, subdivisions (b) and (c) are met. (See also Cal. Code Regs., tit. 14, § 783.4.)

Permittee:	**Napa County Flood Control and Water Conservation District**
Name and title of principal officer:	**Robert J. Peterson, P.E., District Engineer**
Contact person:	**Daisy Lee, (707) 259-8600**
Mailing address:	**804 First Street** **Napa, California 94559-2623**

Effective Date and Expiration Date of ITP:
This ITP shall be executed in duplicate original form and shall become effective once a duplicate original is acknowledged by signature of the Permittee on the last page of the ITP and returned to DFG's Habitat Conservation Planning Branch at the address listed in the Notices section of this ITP. Unless renewed by DFG, this ITP's authorization to take the Covered Species shall expire on **December 31, 2014**.

Project Location:
The Project site is located on the Napa River from the Hwy 29 and Highway 12 crossing (southern crossing) to Trancas Street Bridge in the City of Napa, County of Napa.

---

[1]Pursuant to Fish and Game Code section 86, "'Take' means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill."

[2]"Candidate species" are species of wildlife that have not yet been placed on the list of endangered species or the list of threatened species, but which are under formal consideration for listing pursuant to Fish and Game Code section 2074.2.

Project Description:
The Napa County Flood Protection Project (Project) involves the construction of 6000 linear feet of flood control wall between the Imola Crossing and Third Street Bridge, approximately 3600 linear feet of floodwall along the Oxbow area north of the Soscol Street Crossing, replacement of the existing railroad crossing, and the construction of the Oxbow Bypass.

Project activities including construction of cofferdams, placement of rip rap for bank stabilization, grading of proposed Oxbow inlet and outlet, and construction of in-water structures such as bridge piers will result in temporary and permanent impacts to Shallow Water Habitat (SWH) used by delta smelt (*Hypomesus transpacificus*) and longfin smelt (*Spirinchus thaleichthys*). As part of Project implementation and to mitigate for the adverse effects of the Project, including effects to listed species, the Napa County Flood Control and Water Conservation District (hereafter District or Permittee) has acquired and created approximately 451.4 acres of SWH. Of that SWH, approximately 61.71 acres are mitigation for temporary and permanent impacts to the Covered Species habitat.

The Project described in this ITP is part of the more comprehensive "Napa River/Napa Creek Flood Reduction Project" approved by the District and U.S. Army Corps of Engineers in May 1999 (hereafter, the "Overall Project"). The habitat enhancements carried out as part of the Overall Project were designed and implemented to reduce flood risk while providing functional riverine habitat. These enhancements are now complete.

Covered Species:
This ITP covers the following species:

Name	Status[3]
Fish	
1. Delta smelt (*Hypomesus transpacificus*)	Threatened[4]

[3]Under CESA, a species may be on the list of endangered species, the list of threatened species, or the list of candidate species. All other species are "unlisted."
[4] Delta smelt are currently protected under CESA as a threatened species. (Cal. Code Regs., tit. 14, § 670.5, subd. (b)(2)(A); see also Fish & G. Code, § 2080.) On June 7, 2007, the California Fish and Game Commission accepted a petition to uplist Delta smelt as an endangered species and on August 7, 2008, the Commission made a finding that uplisting from threatened to endangered is warranted. (Cal. Reg. Notice Register 2007, No. 25-Z, p. 1090, and 2009, No. 3-Z, p. 111.) The Commission is currently engaged in related rulemaking under the Administrative Procedure Act (APA) (Gov. Code, § 11340 et seq.) and, when complete, the legal status of Delta smelt under CESA will change from threatened to endangered. (Fish & G. Code, 2075.5(2); Cal. Reg. Notice Register 2009, No. 3-Z, p. 106; see also proposed Cal. Code Regs., tit. 14, § 670.5, subd. (a)(2)(O).) The species' change in legal status under CESA will not affect this ITP.

2. Longfin smelt (*Spirinchus thaleichthys*) Candidate[5]

These species and only these species are hereinafter referred to as "Covered Species."

Impacts to Covered Species:

The Project activities described above and their resulting impacts are expected to result in the incidental take of individuals of the Covered Species. Individuals of the Covered Species may be incidentally taken as a result of mortality due to instream cofferdam construction and dewatering, project-related traffic on and off site, and project-caused habitat losses (direct impacts). In particular, the Project will result in the permanent loss of 19.13 acres and the temporary loss of 1.44 acres of SWH for the Covered Species. Impacts of the proposed taking on the Covered Species may also include adverse impacts to the Covered Species related to temporal losses, increased habitat fragmentation and edge effects, and the Project's incremental contribution to cumulative impacts (indirect impacts).

Incidental Take Authorization of Covered Species:

This ITP authorizes incidental take of the Covered Species and only the Covered Species. With respect to incidental take of the Covered Species, DFG authorizes the Permittee, its employees, contractors, and agents to take Covered Species incidentally in carrying out the Project, subject to the limitations described in this section and the Conditions of Approval identified below. This ITP does not authorize take of Covered Species from activities outside the scope of the Project as described above, take of Covered Species resulting from violation of this ITP, or intentional take of Covered Species except for capture and relocation of Covered Species as authorized by this ITP.

Conditions of Approval:

Unless specified otherwise, the following measures shall pertain to all ground-disturbing activities within the Project construction boundaries, including areas used for ingress and egress routes during construction. DFG's issuance of this ITP and the Permittee's authorization to take the Covered Species are subject to the Permittee's compliance with and implementation of the following Conditions of Approval:

1. Permittee shall comply with all applicable state, federal, and local laws in existence on the effective date of this ITP or adopted thereafter.

[5] Longfin smelt are currently protected under CESA as a candidate species. (Cal. Reg. Notice Register 2008, No. 9-Z, p. 308; Fish & G. Code, §§ 2080, 2085.) On March 4, 2009, the California Fish and Game Commission made a finding that listing longfin smelt as a threatened species under CESA is warranted. (Cal. Reg. Notice Register 2009, No. 24-Z, p. 924.) The Commission is currently engaged in related rulemaking under the APA and, when complete, the legal status of longfin smelt under CESA will change from a candidate to a threatened species. (Fish & G. Code, § 2075.5(2); Cal. Reg. Notice Register 2009, No. 19-Z, p. 699; see also proposed Cal. Code Regs., tit. 14, § 670.5, subd. (b)(2)(E).) The species' change in legal status will not affect this ITP.

2. Permittee shall implement and adhere to the mitigation measures related to the Covered Species in the Biological Resources section of the Environmental Impact Report (SCH No. 1997044002) certified by the Permittee as lead agency for the Project under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.) on May 10, 1999.

3. Permittee shall fully implement and adhere to the conditions of this ITP within the time frames set forth below and in Attachment 1, the Mitigation Monitoring and Reporting Program (MMRP).

4. General Provisions:

4.1 Before initiating ground-disturbing activities, Permittee shall designate a representative (Designated Representative) responsible for communications with DFG and overseeing compliance with this ITP. Permittee shall notify DFG in writing, prior to commencement of ground-disturbing activities, of the Designated Representative's name, business address, and contact information, and shall notify DFG in writing if a substitute Designated Representative is selected or identified at any time during the term of this ITP.

4.2 Permittee shall hire a biologist knowledgeable and experienced in the biology and natural history of the Covered Species (Designated Biologist). The Designated Biologist shall monitor construction activities within the Project area. At least 30 days prior to ground-disturbing activities, the Permittee shall submit to DFG in writing the proposed Designated Biologist's name, qualifications, business address, and contact information for review and approval. The Permittee shall not commence ground-disturbing activities until DFG approves the Designated Biologist.

4.3 To ensure compliance with the Conditions of Approval of this ITP the Designated Biologist shall have authority to require Project-related personnel to immediately stop any activity that is not in compliance with this ITP, and to order any reasonable measure to avoid the unauthorized take of an individual of the Covered Species.

4.4 Permittee shall conduct all in-water work within the Napa River within sheetpile cofferdams and in isolation from flowing water. Permittee shall install all sheetpile cofferdams between June 1 and October 31. Work within cofferdams may occur outside of this work period. Alternative cofferdam designs may only be used if approved in writing by DFG. The Permittee shall use a vibratory hammer to install all cofferdams.

4.5 Permittee shall implement erosion control measures during all phases of construction in areas where soil, silt, dirt and/or sediment from project activities

threatens to enter waters of the State. At no time shall any of these materials be allowed to enter or be placed where it may enter waters of the State. Erosion control matting shall not include monofilament or plastic; instead, the matting shall be composed of jute, straw, coconut matting, or other natural fibers.

4.6 Permittee shall locate staging and storage areas for equipment, materials, fuels, lubricants and solvents outside of the channel and banks. For all stationary equipment located within or adjacent to the channel (e.g., motors, pumps, generators, compressors, and welding equipment), Permittee shall place a drip pan under any and all such equipment. Any equipment or vehicles driven and/or operated within or adjacent to the channel shall be checked and maintained daily to prevent leaks of materials that, if introduced to water, could be deleterious to aquatic life. Vehicles shall be moved away from the channel prior to refueling and lubrication.

4.7 Permittee shall ensure that poured concrete is excluded from the wetted channel for a period of 30 days after it is poured. During that time the poured concrete shall be kept moist, and runoff from the concrete shall not be allowed to enter waters of the State. Commercial sealants approved for use around water may be applied to the poured concrete surface where it may be difficult to exclude water flow for a long period. If sealant is used, water shall be excluded from the site until the sealant is dry.

4.8 Permittee shall conduct an education program for all persons employed or otherwise working on the Project site prior to performing any work on-site. The program shall consist of a presentation from the Designated Biologist that includes a discussion of the biology and general behavior of the Covered Species, information about the distribution and habitat needs of the Covered Species, sensitivity of the Covered Species to human activities, its status under CESA including legal protection, recovery efforts, penalties for violations and Project-specific protective measures described in this ITP. Interpretation shall be provided for non-English speaking workers, and the same instruction shall be provided for any new workers prior to their performing work on-site. Copies of this ITP shall be maintained at the worksite. Permittee shall prepare and distribute wallet-sized cards or a fact sheet handout containing this information for workers to carry on-site. Upon completion of the program, employees shall sign a form stating they attended the program and understand all protection measures.These forms shall be filed at the District offices and made available to DFG upon request.

4.9 Project-related personnel shall access the Project site during construction and development activities using existing routes and shall not cross Covered Species' habitat outside of or in route to the Project site. Project-related vehicle traffic shall be

restricted to established roads, staging, and parking areas. If Permittee determines construction of off-site routes for travel are necessary, Permittee shall contact DFG prior to carrying out such an activity. DFG may require an amendment to this ITP if additional take of Covered Species may result from Project modification.

4.10 The Permittee shall provide DFG representatives with reasonable access to the Project site and mitigation lands under its control, and shall otherwise fully cooperate with DFG efforts to verify compliance with or effectiveness of mitigation measures set forth in the ITP. Neither the Designated Biologist, nor DFG shall be liable for any costs incurred in complying with the management measures, including cease-work orders issued by DFG or as provided in the ITP.

4.11 Upon Project completion, Permittee shall remove from the site and properly dispose of all construction refuse, including, but not limited to, broken equipment parts, wrapping material, cords, cables, wire, rope, strapping, twine, buckets, metal or plastic containers, and boxes

4.12 Notwithstanding any expiration date on the take authorization provided by this ITP, Permittee's obligations under this ITP do not end until DFG accepts as complete the Permittee's Final Mitigation Report required by Condition 5.7 of this ITP.

5. **Notification and Reporting:**

5.1. Permittee shall notify DFG of, and document compliance with, all pre-construction Conditions of Approval before commencing ground-disturbing activities.

5.2. The Designated Representative shall provide DFG with a single weekly status report on all activities authorized by this ITP. The status report shall list the schedule of events,including beginning dates, work in progress, and completion dates. The status report shall be submitted to DFG every Monday until the list of authorized activities is complete or there are scheduled periods of inactivity. The status report shall be sent via email transmittal to cgray@dfg.ca.gov.

5.3 The Designated Biologist shall be on-site daily while construction and/or surface-disturbing activities are taking place to minimize take of the Covered Species, and check for compliance with all mitigation and avoidance measures. These inspections shall be compiled into a Monthly Compliance Report and submitted to DFG at the office listed below or via e-mail to DFG's regional representative at cgray@dfg.ca.gov. DFG may at any time increase the timing and number of compliance inspections and reports required under this provision depending upon the results of previous compliance inspections.

5.4 Permittee shall immediately notify DFG in writing if it determines that it is not in compliance with any condition of approval of this ITP, including but not limited to any actual or anticipated failure to implement mitigation measures within the time periods indicated in this ITP and/or the MMRP. Permittee shall report any non-compliance with the ITP during the construction phase of the Project to DFG within twenty-four hours.

5.5 All observations of Covered Species during Project activities shall be conveyed to the Permittee's Designated Representative or Designated Biologist. This information shall be included in the next weekly status report submitted to DFG by the Permittee.

5.6 Annual Status Report: Permittee shall provide DFG with an Annual Status Report (ASR) no later than January 31 of every year beginning with issuance of the ITP and continuing until DFG accepts the Final Mitigation Report identified below. Each ASR shall include, at a minimum: (1) a general description of the status of the Project site and construction activities, including actual or projected completion dates, if known; (2) a copy of the table in the MMRP with notes showing the current implementation status of each mitigation measure; (3) an assessment of the effectiveness of each completed or partially completed mitigation measure in minimizing and compensating for Project impacts of the taking; and (4) a summary of the observations, relocations, and level of authorized incidental take of Covered Species.

5.7 Final Mitigation Report: No later than 45 days after completion of the Project, including completion of all mitigation measures, Permittee shall provide DFG with a Final Mitigation Report. The Final Mitigation Report shall be prepared by the Designated Biologist and shall include, at a minimum: (1) a copy of the table in the MMRP with notes showing when each of the mitigation measures was implemented; (2) all available information about Project-related incidental take of the Covered Species; (3) information about other Project impacts on the Covered Species; (4) construction dates; (5) an assessment of the effectiveness of the ITP's Conditions of Approval in minimizing and fully mitigating for Project impacts of the taking on Covered Species; (6) recommendations on how mitigation measures might be changed to more effectively minimize and mitigate the impacts of future projects on the Covered Species; and (7) any other pertinent information related to the incidental take of Covered Species associated with the Project.

5.8 If a Covered Species is killed by Project-related activities during construction, or if a Covered Species is otherwise found dead within the Project boundary, the Designated Biologist shall immediately notify the DFG Regional Representative and shall send a written report to DFG within two (2) calendar days. The report shall include the date and time of the finding or incident, location of the carcass, and if

possible include a photograph, explanation as to cause of death, and any other pertinent information.

6. Take Minimization Measures:
The following measures are intended to ensure the minimization of incidental take of Covered Species within the Project area both prior to ground- disturbing activities and throughout construction of the Project:

6.1. Permittee shall submit a Fish Rescue Plan to be implemented during cofferdam dewatering operations. Permittee shall submit the Fish Rescue Plan to DFG for approval prior to any in-water work. The Fish Rescue Plan shall address take minimization of Covered Species and other fish species as described in Streambed Alteration Agreement #1600-2008-0420-3. The Designated Biologist shall oversee implementation of the Fish Rescue Plan, as approved by DFG. The Fish Rescue Plan shall include, at a minimum, the following measures relevant to Covered Species take minimization:

a) Cofferdams shall only be closed during low tide events to minimize Covered Species capture and stranding;

b) After closing cofferdams and prior to fully dewatering the cofferdams, Covered Species remaining within the closed cofferdams shall be rescued. During rescue, Covered Species shall be identified, measured, and counted immediately upon capture; and the time that Covered Species are held in buckets, and handling stress during processing and release, shall be minimized;

c) Covered Species shall be processed before other fish species and released as soon as possible during rescue operations. Species name and length data shall be recorded on data sheets, as well as time, date, location, gear type, water temperature, salinity and any other pertinent observations of the Covered Species;

d) Because of the potential for mortality during rescue, if any Covered Species are killed, the individuals shall be preserved via freezing or placing in a container with 10 percent formalin solution. Information on time and exact location of any incidental take, method of take, length of time from death to preservation, water temperature, and any other relevant information shall be recorded in writing. Permittee shall deliver preserved individuals to a DFG or U.S. Fish and Wildlife Service (USFWS) laboratory that DFG identifies at the time the Permittee contacts DFG as required by Condition 5.8 of this ITP..

e) If any dead fish cannot be positively identified in the field, the Permittee shall bag, label, and deliver the specimen to the previously named DFG or USFWS laboratory (see above) for positive identification. Frozen fish shall be kept as cold as possible. If identification will not occur on the same day as capture, the fish shall be placed in a freezer. Each bag shall have a waterproof paper tag with date, time, and location caught.

f) No one may remove any Covered Species, dead or alive, from the site for personal use.

g) After completing the fish rescue, the Designated Biologist shall prepare a brief documentation report. The report shall contain the information required in Measures 6.1.(c) and 6.1(d), and information on the personnel conducting the rescue, methods used, number of each species collected and relocated, and an estimate of the survival rate of Covered Species immediately after release. Photographs of the site and rescue operations shall be included. The report shall be provided by the Permittee to DFG, USFWS, and National Marine Fisheries Service within 30 days of completing the fish rescue.

h) Dewatering of areas within the cofferdams shall only proceed after the fish rescue effort is completed. The Designated Biologist and any fish rescue biologist identified in the Fish Rescue Plan approved by DFG shall be present on the Project site to monitor and oversee any fish rescue operation, including instructing and working with Project employees to monitor the area being dewatered in case any Covered Species are stranded or otherwise remain in the dewatering area. If any such Covered Species are observed in the dewatering area, dewatering operations shall stop temporarily to allow the Designated Biologist to rescue and relocate the Covered Species.

6.2. Pumps used to dewater the area behind the cofferdam shall be screened to protect aquatic species. Pumps used to dewater cofferdams shall be screened as follows:

1. Perforated plate: screen openings shall not exceed 3/32 inches (2.38 mm), measured in diameter.
2. Woven wire: screen openings shall not exceed 3/32 inches (2.38 mm), measured diagonally.
3. Screen material shall provide a minimum of 27% open area.
4. Approach velocity shall not exceed 0.33 feet per second.

6.3. Permittee shall revise the Bank Stabilization and Mitigation Plan (Plan), prepared by the Permittee and included as Appendix J of the Final Supplemental General Design Memorandum, Vol. II dated October 1998, to include the following:

1. All areas of rock installation generally between the mean high and low water levels shall be soil-choked and planted with appropriate native plantings.
2. All plantings shall be from locally collected propagules within the Napa River basin. Propagules from outside of the Napa River basin may only be used with written approval from DFG.

Permittee shall obtain DFG approval of the revised Plan prior to its implementation. Additionally, if Permittee proposes further revisions to the Plan after DFG approval, Permittee shall obtain DFG approval prior to implementing any such modification.

Mitigation for Authorized Take:
As set forth below, Permittee shall implement and fully fund all measures necessary to minimize and fully mitigate all impacts of the taking of Covered Species as authorized by this ITP, and fully fund all measures necessary to monitor the compliance with and effectiveness of any and all such measures.

7. Habitat Management Land Acquisition and Funding Assurances:
DFG has determined that permanent protection of compensatory habitat is necessary and required under CESA to fully mitigate impacts of the taking on Covered Species that will result from implementation of this Project. This determination is based on factors including an assessment of the quality of the habitat at the Project site and the increased habitat value for the listed species in question that can be achieved through land management at the mitigation location.

7.1. Permittee shall restore/manage at least 61.71 acres of SWH for the Covered Species in the Napa River/Napa Creek. As part of implementing the Overall Project, the Permittee reduced flood risk to surrounding residents by restoring and enhancing the more natural path and flow of Napa River/Napa Creek, which created approximately 451.4 acres of SWH. DFG has determined the Permittee's maintenance of this habitat, which is an inherent part of Project implementation, provides additional aquatic habitat to the Covered Species that fully mitigates the impacts of the taking on Covered Species caused by Project activities, including temporary and permanent impacts to Covered Species habitat.

Amendment:
This ITP may be amended without the concurrence of Permittee as required by law pursuant to California Code of Regulations, Title 14, section 783.6, subdivision (c), including as determined by DFG that: (1) continued implementation of the Project under existing ITP

conditions would jeopardize the continued existence of the Covered Species, or (2) Project changes or changed biological conditions necessitate an ITP amendment to ensure that impacts to the Covered Species are minimized and fully mitigated.

Stop-Work Order:
DFG may issue Permittee a written stop-work order to suspend any activity covered by this ITP for an initial period of up to twenty-five days to prevent or remedy a violation of ITP conditions (including but not limited to failure to comply with reporting, monitoring, or habitat acquisition obligations) or to prevent the illegal take of an endangered, threatened, or candidate species. Permittee shall comply with the stop-work order immediately upon receipt thereof. DFG may extend a stop-work order under this provision for a period not to exceed twenty-five additional days, upon written notice to the Permittee. DFG shall commence the formal suspension process pursuant to California Code of Regulations, Title 14, section 783.7, within five working days of issuing a stop-work order.

Compliance with Other Laws:
This ITP contains DFG's requirements for the Project pursuant to CESA. This ITP does not necessarily create an entitlement to proceed with the Project. Permittee is responsible for complying with all other applicable state, federal, and local laws.

Notices:
Written notices, reports and other communications relating to this ITP shall be delivered to DFG by first class mail at the following addresses, or at addresses DFG may subsequently provide the Permittee. Notices, reports, and other communications should reference the Project name, Permittee, and ITP Number (2081-2008-014-03) in a cover letter and on any other associated documents.

Original cover with attachment(s) to:

Charles Armor, Regional Manager
Bay Delta Region
P.O. Box 47
Yountville, California 94599
Telephone: (707) 944-5517
Fax: (707) 944-5553

Copy of cover without attachment(s) to:

General Counsel
Department of Fish and Game
1416 Ninth Street, 12th Floor
Sacramento, CA 95814

And:

Habitat Conservation Planning Branch
1416 Ninth Street, Suite 1260
Sacramento, CA 95814

Unless Permittee is notified otherwise, DFG's Regional Representative for purposes of addressing issues that arise during implementation of ITP conditions is:

Corinne Gray, Environmental Scientist
Post Office Box 47
Yountville, California 94599
Telephone (707) 944-5526
Fax (707) 944-5595

CESA Findings:
These findings are intended to document DFG's compliance with the specific findings requirements set forth in CESA and related regulations. (Fish & G. Code § 2081, subs. (b)-(c); Cal. Code Regs., tit. 14, §§ 783.4, subds, (a)-(b), 783.5, subd. (c)(2).)

DFG finds that issuance of this ITP complies and is consistent with the criteria governing the issuance of ITPs under CESA:

(1) Take of Covered Species as defined in the ITP will be incidental to the otherwise lawful activities covered under the ITP;

(2) Impacts of the taking of the Covered Species will be minimized and fully mitigated through the implementation of measures required by this ITP and as described in the Mitigation Monitoring and Reporting Program (MMRP). Measures include: (1) permanent habitat protection; (2) fish rescue efforts; (3) worker education; and (4) Monthly Compliance Reports. DFG evaluated the quality of the habitat on the Project site, the scope and extent of direct impacts, the scope and extent of indirect impacts, and other relevant information available to DFG or provided by the Permittee. Based on this evaluation, DFG determined that the protection and management of 61.71 acres of mitigation habitat (a 3:1 ratio) that is contiguous with other protected Covered Species habitat and/or is of higher quality than the habitat being destroyed by the Project, along with the minimization, monitoring, reporting, and funding requirements of this ITP, meet the CESA issuance criteria;

(3) The take avoidance and mitigation measures required pursuant to the conditions of this ITP and its attachments are roughly proportional in extent to the impact of Permittee's take;

(4) The measures required by this ITP maintain Permittee's objectives to the greatest extent possible;

(5) All required measures are capable of successful implementation;

(6) The ITP is consistent with any regulations adopted pursuant to Fish and Game Code sections 2112 and 2114;

(7) Permittee has ensured adequate funding to implement the measures required by the ITP as well as for monitoring compliance with, and the effectiveness of, those measures for the Project. Specifically, the Permittee has met this obligation by providing the required mitigation prior to Project impacts; and

(8) Issuance of the ITP will not jeopardize the continued existence of the Covered Species based on the best scientific and other information reasonably available, and this finding includes consideration of the species' capability to survive and reproduce, and any adverse impacts of the taking on those abilities in light of (a) known population trends; (b) known threats to the species; and (c) reasonably foreseeable impacts on the species from other related projects and activities. Moreover, DFG's finding is based, in part, on DFG's express authority to amend the terms and conditions of the ITP without concurrence of the Permittee as necessary to avoid jeopardy and as required by law.

Attachments:

ATTACHMENT 1 Mitigation Monitoring and Reporting Program

ISSUED BY THE CALIFORNIA DEPARTMENT OF FISH AND GAME

on 12/01/09.

Charles Armor, Regional Manager
BAY DELTA REGION

APPROVED AS TO FORM:

John H. Mattox
Senior Staff Counsel

ACKNOWLEDGMENT

The undersigned: 1) warrants that he or she is acting as a duly authorized representative of the Permittee, 2) acknowledges receipt of this ITP, and 3) agrees on behalf of the Permittee to comply with all terms and conditions of the ITP.

By: _____ Date: 12/15/09

Printed Name: Felix Riesenberg Title: Deputy District Engineer

Attachment 1

DEPARTMENT OF FISH AND GAME
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

CALIFORNIA INCIDENTAL TAKE PERMIT NO. 2081-2008-014-03

PERMITTEE: **Napa County Flood Control and Water Conservation District**

PROJECT: **Napa River Flood Protection Project**

PURPOSE OF THE MMRP

The purpose of the MMRP is to ensure that the impact minimization and mitigation measures required by the Department of Fish and Game (DFG) for the above-referenced Project are properly implemented, and thereby to ensure compliance with section 2081(b) of the Fish and Game Code and section 21081.6 of the Public Resources Code. A table summarizing the mitigation measures required by DFG is attached. This table is a tool for use in monitoring and reporting on implementation of mitigation measures, but the descriptions in the table do not supersede the mitigation measures set forth in the California Incidental Take Permit (ITP) and in attachments to the ITP, and the omission of an ITP requirement from the attached table does not relieve the Permittee of the obligation to ensure the requirement is performed.

OBLIGATIONS OF PERMITTEE

Mitigation measures must be implemented within the time periods indicated in the table that appears below. Permittee has the primary responsibility for monitoring compliance of all mitigation measures and for reporting to DFG on the progress in implementing those measures. These monitoring and reporting requirements are set forth in the ITP itself and are summarized at the front of the attached table.

VERIFICATION OF COMPLIANCE, EFFECTIVENESS

DFG may, at its sole discretion, verify compliance with any mitigation measure or independently assess the effectiveness of any mitigation measure.

TABLE OF MITIGATION MEASURES

The following items are identified for each mitigation measure: Mitigation Measure, Source, Implementation Schedule, Responsible Party, and Status/Date/Initials. The "Mitigation Measure" column summarizes the mitigation requirements of the ITP. The "Source" column identifies the ITP document that sets forth the mitigation measure. The "Implementation Schedule" column shows the date or phase when each mitigation measure will be implemented. The "Responsible Party" column identifies the person or agency that is primarily responsible for implementing the mitigation measure. The "Status/Date/Initials" column shall be completed by the Permittee during preparation of each Status Report and the Final Mitigation Report, and must identify the implementation status of each mitigation measure, the date that status was determined, and the initials of the person determining the status.

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
BEFORE DISTURBING SOIL OR VEGETATION					
1	Before initiating ground-disturbing activities, the Permittee shall designate a representative (Designated Representative) responsible for communications with DFG and overseeing compliance with this ITP. The Permittee shall notify DFG in writing, prior to commencement of ground-disturbing activities, of the Designated Representative's name, business address, and contact information, and shall notify DFG in writing if a substitute Designated Representative is selected or identified at any time during the term of this ITP.	ITP Condition # 4.1	Before commencing ground-disturbing activities/ Entire Project	Permittee	
2	At least thirty days before initiating ground- or vegetation-disturbing activities, Permittee shall submit to DFG in writing the name, qualifications, business address, and contact information for a biological monitor (Designated Biologist). The Designated Biologist shall be knowledgeable and experienced in the biology and natural history of the Covered Species. The Designated Biologist shall be responsible for monitoring construction and/or ground- or vegetation-disturbing activities in areas of Covered Species' habitat to help minimize or avoid the incidental take of individual Covered Species and to minimize disturbance of Covered Species' habitat. Permittee shall obtain DFG approval of the Designated Biologist prior to the commencement of Project-related activities that may result in the incidental take of the Covered Species.	ITP Condition # 4.2	Before commencing ground-disturbing activities	Permittee	
3	Permittee shall conduct an education program for all persons employed or otherwise working on the Project site prior to performing any work on-site. The program shall consist of a presentation from the Designated Biologist that includes a discussion of the biology and general behavior of the Covered Species, information about the distribution and habitat needs of the Covered Species, sensitivity of the Covered Species to human activities, its status under CESA including legal protection, recovery efforts, penalties for violations and Project-specific protective measures described in this ITP. Interpretation shall be provided for non-English speaking workers, and the same instruction shall be provided for any new workers prior to their performing work on-site. Copies of this ITP shall be maintained at the worksite. Permittee shall prepare and distribute wallet-sized cards or a fact sheet handout containing this information for workers to carry on-site. Upon completion of the program, employees shall sign a form stating they attended the program and understand all protection measures.These forms shall be filed at the Napa County Flood Control offices and be available to DFG upon request.	ITP Condition # 4.8	Before commencing ground-disturbing activities / Entire Project	Permittee	
5	The Permittee shall submit a Fish Rescue Plan to be implemented during cofferdam dewatering operations for DFG approval prior to any in water work. The Plan shall include the elements described in Condition 6.1 of the ITP	ITP Condition # 6.1	Before commencing in water activities Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
6	The Permittee shall revise the Bank Stabilization and Mitigation Plan (Plan), prepared by the Permittee and included as Appendix J of the Final Supplemental General Design Memorandum, Vol. II dated October 1998, to include the following: (1) All areas of rock installation generally between the mean high and low water levels shall be soil-choked and planted with appropriate native plantings. (2) All plantings shall be from locally collected propagules within the Napa River basin. Propagules from outside of the Napa River basin may only be used with written approval from DFG. Permittee shall obtain DFG approval of the revised Plan prior to its implementation. Additionally, if the Permittee proposes further revisions to the Plan, the Permittee shall obtain DFG approval prior to modifying activities.	ITP Condition # 6.3	Before commencing ground-disturbing activities / Entire Project	Permittee	
7	Permittee shall notify DFG of, and document compliance with, all pre-construction Conditions of Approval at least fourteen days before commencing vegetation- or ground-disturbing activities.	ITP Condition # 5.1	Before commencing ground-disturbing activities	Permittee	
DURING CONSTRUCTION					
8	Project-related personnel shall access the Project site during construction and development activities using existing routes and shall not cross Covered Species' habitat outside of or in route to the Project site. Project-related vehicle traffic shall be restricted to established roads, staging, and parking areas. If Permittee determines construction of off-site routes for travel are necessary, Permittee shall contact DFG prior to carrying out such an activity. DFG may require an amendment to this ITP if additional take of Covered Species may result from Project modification.	ITP Condition # 4.9	Entire Project	Permittee	
9	The Designated Biologist shall be on-site daily while construction and/or surface-disturbing activities are taking place to minimize take of the Covered Species and check for compliance with all mitigation and avoidance measures. These inspections shall be compiled into a Monthly Compliance Report and submitted to DFG at the office listed below or via e-mail to DFG's regional representative at cgray@dfg.ca.gov. DFG may at any time increase the timing and number of compliance inspections and reports required under this provision depending upon the results of previous compliance inspections.	ITP Condition # 5.3	Entire Project	Permittee	
10	Permittee shall immediately notify DFG in writing if it determines that it is not in compliance with any condition of approval of this ITP, including but not limited to any actual or anticipated failure to implement mitigation measures within the time periods indicated in this ITP and/or the MMRP. Permittee shall report any non-compliance with the ITP during the construction phase of the Project to DFG within twenty-four hours.	ITP Condition # 5.4	Entire Project	Permittee	
11	All observations of Covered Species during Project activities shall be conveyed to the Permittee's Designated Representative or Designated Biologist. This information shall be included in the next weekly status report submitted to DFG by the Permittee.	ITP Condition # 5.5	Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
12	Annual Status Report: Permittee shall provide DFG with an Annual Status Report (ASR) no later than January 31 of every year beginning with issuance of the ITP and continuing until DFG accepts the Final Mitigation Report identified below. Each ASR shall include, at a minimum: 1) a general description of the status of the Project site and construction activities, including actual or projected completion dates, if known; 2) a copy of the table in the MMRP with notes showing the current implementation status of each mitigation measure; 3) an assessment of the effectiveness of each completed or partially completed mitigation measure in minimizing and compensating for Project impacts; and 4) a summary of the observations, relocations, and level of incidental take of Covered Species.	ITP Condition # 5.6	Entire Project	Permittee	
13	If a Covered Species is killed by project-related activities during construction, or if a Covered Species is otherwise found dead within the Project boundary, the Designated Biologist shall immediately notify the DFG Regional Representative and shall send a written report to DFG within two (2) calendar days. The report shall include the date and time of the finding or incident, location of the carcass, and if possible provide a photograph, explanation as to cause of death, and any other pertinent information.	ITP Condition # 5.8	Entire Project	Permittee	
POST-CONSTRUCTION					
14	Final Mitigation Report: No later than 45 days after completion of the Project, including completion of all mitigation measures, Permittee shall provide DFG with a Final Mitigation Report. The Final Mitigation Report shall be prepared by the Designated Biologist and shall include, at a minimum: 1) a copy of the table in the MMRP with notes showing when each of the mitigation measures was implemented; 2) all available information about Project-related incidental take of the Covered Species; 3) information about other Project impacts on the Covered Species; 4) construction dates; 5) an assessment of the effectiveness of the ITP's Conditions of Approval in minimizing and fully mitigating for Project impacts of the taking on Covered Species; 6) recommendations on how mitigation measures might be changed to more effectively minimize and mitigate the impacts of future projects on the Covered Species; and 7) any other pertinent information, including the level of take of the Covered Species associated with the Project.	ITP Condition # 5.7	Post-construction and after completion of mitigation	Permittee	
15	DFG accepts the Final Mitigation Report as complete.	ITP Condition # 4.12	Post-construction	Department of Fish and Game	