FOR CONTRACT NO.: 02-2C225**4**

INFORMATION HANDOUT

PLAC SUMMARY

PERMIT CONDITION RESPONSIBILITY SUMMARY

WATER QUALITY

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

WDID#5A52CR00120

PERMITS

STATE OF CALIFORNIA
DEPARTMENT OF FISH AND GAME

NOTIFICATION NO. 1600-2012-0122-R1

UNITED STATES ARMY CORPS OF ENGINEERS
NON-REPORTING NATIONWIDE 404 PERMIT

AGREEMENTS

NATIONAL MARINE FISHERIES SERVICES

NOTIFICATION NO.2009/06533

MATERIALS INFORMATION

(***NOT A PART OF THE CONTRACT***)

FINAL HYDRAULIC REPORT FOR MILL CREEK BRIDGE NO. 08-0133
DATED APRIL 22, 2010

MILL CREEK NATIVE STREAMBED MATERIAL GRADING ANALYSIS

ROUTE: 02-TEH-36-PM 91.5

PLAC SUMMARY

PERMIT CONDITION RESPONSIBILITY SUMMARY

PLAC PERMIT CONDITION RESPONSIBILITY (PCR) SUMMARY

General:
This PCR Summary identifies which PLAC conditions must be completed by the Contractor and which conditions will be the responsibility of the Department. The PCR Summary includes comments to clarify the various PLAC conditions. If a discrepancy exists between the PCR Summary and the PLAC, the PCR Summary governs.

Definitions:
Agency: A board, agency, or other entity that issues a PLAC
Activity: A task, event or other project element
PLAC Condition: a work activity and/or submittal required by a PLAC

Submittals:
Submit to the Engineer when PLAC conditions require:

1. Communications. The Engineer will contact the agencies.
2. Records to be maintained, within 5 working days after the activity.
3. Submittals 5 days before the agencies require them. The Engineer will review and submit to the agencies.

Central Valley Regional Water Quality Control Board Clean Water Act 401 Technically Conditioned Water Quality Certification WDID#5A52CR00120		
Activity	**Responsible Party**	**Section**
Conditions 1 through 4	Department	Water Quality Certification Standard Conditions
Conditions 1 through 13	Contractor	Additional Technically Conditioned Certification Conditions
Condition 14	Department	Additional Technically Conditioned Certification Conditions
Condition 15	Contractor	Additional Technically Conditioned Certification Conditions
Condition 1	Contractor	Additional Storm Water Quality Conditions
Conditions 2 and 3	Department	Additional Storm Water Quality Conditions
Department of the Army Nationwide Permit (404 NWP) with Special Conditions, Identification Number SPK-2010-00148		
Activity	**Responsible Party**	**Section**
Conditions 1 through 5	Department	Special Conditions
Conditions 6 through 10	Contractor	Special Conditions
Condition 11	Department	Special Conditions

California Department of Fish and Game Streambed Alteration Agreement Notification No: 1600-2012-0122-R1		
Activity	**Responsible Party**	**Section**
Measure 1.1 and 1.2	Contractor	Measures to Protect Fish and Wildlife Resources
Measure 1.3	Department	Measures to Protect Fish and Wildlife Resources
Measure 1.4	Contractor	Measures to Protect Fish and Wildlife Resources
Measure 2.1 through 2.14 (Large woody debris in Measure 2.9 is the habitat enhancement in the plans and section 14-6.12 of the special provisions. The engineered streambed mix and clean washed spawning gravel in Measure 2.18 means clean washed gravel as described in section 13-12.02B of the special provisions)	Contractor	Measures to Protect Fish and Wildlife Resources
Measure 2.15	Department	Measures to Protect Fish and Wildlife Resources
Measure 2.16 through 2.22	Contractor	Measures to Protect Fish and Wildlife Resources
Measure 2.23	Department	Measures to Protect Fish and Wildlife Resources
Measure 2.24 through 2.42	Contractor	Measures to Protect Fish and Wildlife Resources
Measure 2.43 and 3.1	Department	Measures to Protect Fish and Wildlife Resources
Measure 3.2 (For the habitat enhancement see the plans and section 14-6.12 of the special provisions.)	Contractor	Measures to Protect Fish and Wildlife Resources
Measure 4.1	Department	Measures to Protect Fish and Wildlife Resources

NOAA National Marine Fisheries Service (NMFS) Biological Opinion, File Tracking Number 151422SWR200900570 (T/N:2009/06533)		
Activity	**Responsible Party**	**Section**
Conditions 1 through 9 (All references to gravel mean clean washed gravel as described in section 13-12.02B of the special provisions. For Condition 9 habitat enhancement see section 14-6.12 of the special provisions and plans.)	Contractor	Proposed Conservation Measures
Condition 10	Department	Proposed Conservation Measures
Condition 11	Contractor	Proposed Conservation Measures
Condition 12	Department	Proposed Conservation Measures
Conditions 13 through 18	Contractor	Proposed Conservation Measures
Condition 19	Department	Proposed Conservation Measures
Conditions 1 and 2	Contractor	Terms and Conditions
Condition 3	Department	Terms and Conditions
Condition 4	Contractor	Terms and Conditions
Condition 5	Department	Terms and Conditions
Condition 6 (For Condition 6 habitat enhancement see section 14-6.12 of the special provisions and plans.)	Contractor	Terms and Conditions

WATER QUALITY

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

WDID#5A52CR00120

17 July 2012

Mr. Chris Quiney
Caltrans
P.O. Box 496073
Redding, CA 96049-6073

CLEAN WATER ACT §401 TECHNICALLY CONDITIONED WATER QUALITY CERTIFICATION FOR DISCHARGE OF DREDGED AND/OR FILL MATERIALS FOR THE MILL CREEK BRIDGE SCOUR REPAIR & BRIDGE DECK REHABILITATION PROJECT (WDID#5A52CR00120), MINERAL, TEHAMA COUNTY

ACTION:

1. ☐ Order for Standard Certification
2. ■ Order for Technically-conditioned Certification
3. ☐ Order for Denial of Certification

WATER QUALITY CERTIFICATION STANDARD CONDITIONS:

1. This certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to §13330 of the California Water Code and §3867 of Title 23 of the California Code of Regulations (23 CCR).

2. This certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to 23 CCR subsection 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

3. The validity of any non-denial certification action shall be conditioned upon total payment of the full fee required under 23 CCR §3833, unless otherwise stated in writing by the certifying agency.

4. Certification is valid for the duration of the described project. Caltrans shall notify the Central Valley Water Board in writing within 7 days of project completion.

ADDITIONAL TECHNICALLY CONDITIONED CERTIFICATION CONDITIONS:

In addition to the four standard conditions, Caltrans shall satisfy the following:

1. Caltrans shall notify the Central Valley Water Board in writing 7 days in advance of the start of any in-water activities.

2. Except for activities permitted by the U.S. Army Corps under §404 of the Clean Water Act, soil, silt, or other organic materials shall not be placed where such materials could pass into surface water or surface water drainage courses.

3. All areas disturbed by project activities shall be protected from washout or erosion.

4. Caltrans shall maintain a copy of this Certification and supporting documentation (Project Information Sheet) at the Project site during construction for review by site personnel and agencies. All personnel (employees, contractors, and subcontractors) performing work on the proposed project shall be adequately informed and trained regarding the conditions of this Certification.

5. An effective combination of erosion and sediment control Best Management Practices (BMPs) must be implemented and adequately working during all phases of construction.

6. All temporarily affected areas will be restored to pre-construction contours and conditions upon completion of construction activities.

7. Caltrans shall perform surface water sampling: 1) When performing any in-water work; 2) In the event that project activities result in any materials reaching surface waters or; 3) When any activities result in the creation of a visible plume in surface waters. The following monitoring shall be conducted immediately upstream out of the influence of the project and 300 feet downstream of the active work area. Sampling results shall be submitted to this office within two weeks of initiation of sampling and every two weeks thereafter. The sampling frequency may be modified for certain projects with written permission from the Central Valley Water Board.

Parameter	Unit	Type of Sample	Frequency of Sample
Turbidity	NTU	Grab	Every 4 hours during in water work
Settleable Material	ml/l	Grab	Same as above.
Visible construction related pollutants	Observations	Visible Inspections	Continuous throughout the construction period

8. Activities shall not cause turbidity increases in surface water to exceed:

   (a) where natural turbidity is less than 1 Nephelometric Turbidity Units (NTUs), controllable factors shall not cause downstream turbidity to exceed 2 NTU;

   (b) where natural turbidity is between 1 and 5 NTUs, increases shall not exceed 1 NTU;

   (c) where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent;

   (d) where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs;

   (e) where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.

   Except that these limits will be eased during in-water working periods to allow a turbidity increase of 15 NTU over background turbidity as measured in surface waters 300 feet downstream from the working area. In determining compliance with the above limits, appropriate averaging periods may be applied provided that beneficial uses will be fully protected. Averaging periods may only be assessed by prior permission of the Central Valley Water Board.

9. Activities shall not cause settleable matter to exceed 0.1 ml/l in surface waters as measured in surface waters 300 feet downstream from the project.

10. The discharge of petroleum products or other excavated materials to surface water is prohibited. Activities shall not cause visible oil, grease, or foam in the work area or downstream. Caltrans shall notify the Central Valley Water Board immediately of any spill of petroleum products or other organic or earthen materials.

11. Caltrans shall notify the Central Valley Water Board immediately if the above criteria for turbidity, settleable matter, oil/grease, or foam are exceeded.

12. Caltrans shall comply with all Department of Fish and Game 1600 requirements for the project.

13. The California Department of Transportation shall comply with their General NPDES Permit Order No 99-06-DWQ (NPDES No. CAS 000003) issued by the State Water Resources Control Board.

14. The Conditions in this water quality certification are based on the information in the attached "Project Information." If the information in the attached Project Information is modified or the project changes, this water quality certification is no longer valid until amended by the Central Valley Water Board.

15. In the event of any violation or threatened violation of the conditions of this Order, the violation or threatened violation shall be subject to any remedies, penalties, process, or sanctions as provided for under State law and section 401 (d) of the federal Clean Water Act. The applicability of any State law authorizing remedies, penalties, process, or

sanctions for the violation or threatened violation constitutes a limitation necessary to ensure compliance into this Order.

a. If Caltrans or a duly authorized representative of the project fails or refuses to furnish technical or monitoring reports, as required under this Order, or falsifies any information provided in the monitoring reports, the applicant is subject to civil monetary liabilities, for each day of violation, or criminal liability.

b. In response to a suspected violation of any condition of this Order, the Central Valley Water Board may require Caltrans to furnish, under penalty of perjury, any technical or monitoring reports the Central Valley Water Board deems appropriate, provided that the burden, including cost of the reports, shall be in reasonable relationship to the need for the reports and the benefits to be obtained from the reports.

c. Caltrans shall allow the staff(s) of the Central Valley Water Board, or an authorized representative(s), upon the presentation of credentials and other documents, as may be required by law, to enter the project premises for inspection, including taking photographs and securing copies of project-related records, for the purpose of assuring compliance with this certification and determining the ecological success of the project.

ADDITIONAL STORM WATER QUALITY CONDITIONS:

Caltrans shall also satisfy the following additional storm water quality conditions:

1. During the construction phase, Caltrans must employ strategies to minimize erosion and the introduction of pollutants into storm water runoff. These strategies must include the following:

   (a) the Storm Water Pollution Prevention Plan (SWPPP) must be prepared during the project planning and design phases and before construction;

   (b) an effective combination of erosion and sediment control Best Management Practices (BMPs) must be implemented and adequately working prior to the rainy season and during all phases of construction.

2. Caltrans must minimize the short and long-term impacts on receiving water quality from the Mill Creek Bridge Scour Repair & Bridge Deck Rehabilitation Project by implementing the following post-construction storm water management practices:

   (a) minimize the amount of impervious surface;

   (b) reduce peak runoff flows;

   (c) provide treatment BMPs to reduce pollutants in runoff;

   (d) ensure existing waters of the State (e.g., wetlands, vernal pools, or creeks) are not used as pollutant source controls and/or treatment controls;

   (e) preserve and, where possible, create or restore areas that provide important water quality benefits, such as riparian corridors, wetlands, and buffer zones;

(f) limit disturbances of natural water bodies and natural drainage systems caused by development (including development of roads, highways, and bridges);

(g) use existing drainage master plans or studies to estimate increases in pollutant loads and flows resulting from projected future development and require incorporation of structural and non-structural BMPs to mitigate the projected pollutant load increases in surface water runoff;

(h) identify and avoid development in areas that are particularly susceptible to erosion and sediment loss, or establish development guidance that protects areas from erosion/ sediment loss;

(i) control post-development peak storm water run-off discharge rates and velocities to prevent or reduce downstream erosion, and to protect stream habitat.

3. Caltrans must ensure that all development within the project provides verification of maintenance provisions for post-construction structural and treatment control BMPs. Verification shall include one or more of the following, as applicable:

(a) the developer's signed statement accepting responsibility for maintenance until the maintenance responsibility is legally transferred to another party; or

(b) written conditions in the sales or lease agreement that require the recipient to assume responsibility for maintenance; or

(c) written text in project conditions, covenants and restrictions for residential properties assigning maintenance responsibilities to a home owner's association, or other appropriate group, for maintenance of structural and treatment control BMPs; or

(d) any other legally enforceable agreement that assigns responsibility for storm water BMP maintenance.

REGIONAL WATER QUALITY CONTROL BOARD CONTACT PERSON:

Scott A. Zaitz, R.E.H.S., Redding Branch Office, 364 Knollcrest Drive, Suite 200, Redding, California 96002, szaitz@waterboards.ca.gov, (530) 224-4784

WATER QUALITY CERTIFICATION:

I hereby issue an order certifying that any discharge from Caltrans, Mill Creek Bridge Scour Repair & Bridge Deck Rehabilitation Project (WDID# 5A52CR00120) will comply with the applicable provisions of §301 ("Effluent Limitations"), §302 ("Water Quality Related Effluent Limitations"), §303 ("Water Quality Standards and Implementation Plans"), §306 ("National Standards of Performance"), and §307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. This discharge is also regulated under State Water Resources Control Board Water Quality Order No. 2003-0017 DWQ "Statewide General Waste Discharge Requirements For Dredged Or Fill Discharges That Have Received State Water Quality Certification (General WDRs)."

Except insofar as may be modified by any preceding conditions, all certification actions are contingent on (a) the discharge being limited and all proposed mitigation being completed in strict compliance with Caltrans's project description and the attached Project Information Sheet, and (b) compliance with all applicable requirements of the Water Quality Control Plan *for the Sacramento River and San Joaquin River*, Fourth Edition, revised September 2009 (Basin Plan).

Robert A. Crandall

(for) PAMELA C. CREEDON
Executive Officer

Enclosure: Project Information

cc: Ms. Leah Fisher, U.S. Army Corp of Engineers, Sacramento
U.S. Fish and Wildlife Service, Sacramento
Ms. Donna Cobb, Department of Fish and Game, Region 1, Redding
Mr. Bill Jennings, CALSPA, Stockton

cc by email: Mr. Dave Smith, U.S. EPA, Region 9, San Francisco
Mr. Bill Orme, SWRCB, Certification Unit, Sacramento

U:\Clerical\Storm_Water\Szaitz\2012\401 5A52CR00120 Mill Creek Bridge Scour Repair & Bridge Deck Rehabilitation Project, Caltrans.Doc

PROJECT INFORMATION

Application Date: 30 May 2012

Applicant: Caltrans, Attn: Mr. Chris Quiney

Project Name: Mill Creek Bridge Scour Repair & Bridge Deck Rehabilitation Project

Application Number: WDID No. 5A52CR00120

U.S. Army Corps File Number: SPK-2010-00148

Type of Project: Scour repair and bridge deck rehabilitation of the Mill Creek Bridge on State Route 36 in Tehama County.

Project Location: Section 23, Township 29 North, Range 4 East, MDB&M.
Latitude: 40°21'45.1" and Longitude: -121°30'10.2"

County: Tehama County

Receiving Water(s) (hydrologic unit): Mill Creek, which is tributary to Sacramento River. Eastern Tehama Hydrologic Unit-Upper Mill Creek Hydrologic Area No. 509.42

Water Body Type: Wetlands, Streambed

Designated Beneficial Uses: The Basin Plan for the Central Valley Water Board has designated beneficial uses for surface and ground waters within the region. Beneficial uses that could be impacted by the project include: Municipal and Domestic Water Supply (MUN); Agricultural Supply (AGR); Groundwater Recharge, Water Contact Recreation (REC-1); Non-Contact Water Recreation (REC-2); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD); Cold Migration of Aquatic Organisms (MIGR); Spawning, Reproduction, and /or Early Development (SPWN); and Wildlife Habitat (WILD).

Project Description (purpose/goal): The Mill Creek Bridge Scour Repair & Bridge Deck Rehabilitation Project consists of rehabilitation of the bridge deck and placement of rock slope protection (RSP) at the bridge foundations to prevent scour damage. The Mill Creek Bridge has a history of hydraulic scour at the foundation and is classified as scour critical, which means the bridge is susceptible to severe scour damage. Severe scour could result in traffic restrictions or closure of the bridge. To reduce the potential for scour damage, two ton RSP and a base layer of smaller rock will be strategically placed around the foundations of the bridge abutments and pier wall. In addition to the scour protection work, the bridge deck will be rehabilitated. Rehabilitation of the bridge deck will entail removal of the existing bridge deck joint seals and asphalt concrete deck surface. New deck joint seals will be installed and a polyester overlay will be placed. The pavement approaches will be adjusted to the new deck elevation. Metal beam guardrail at the bridge approaches will be upgraded to current standards as necessary and new traffic striping will be applied to the deck surface.

Preliminary Water Quality Concerns: Construction activities may impact surface waters with increased turbidity and settleable matter.

Proposed Mitigation to Address Concerns: Caltrans will implement Best Management Practices (BMPs) to control sedimentation and erosion. All temporary affected areas will be restored to pre-construction contours and conditions upon completion of construction activities. Caltrans will conduct turbidity and settleable matter testing during in-water work, stopping work if Basin Plan criteria are exceeded or are observed.

Fill/Excavation Area: Project implementation will permanently impact 0.003 acres of jurisdictional wetlands and 0.07 acres of un-vegetated streambed and temporarily impact 0.041 acres of jurisdictional wetlands and 0.193 acres of un-vegetated streambed.

Dredge Volume: 300 cubic yards of silt/cobbles and 880 cubic yards of abutments/piers.

U.S. Army Corps of Engineers Permit Number: Nationwide Permit #14 (Linear Transportation Projects)

Department of Fish and Game Streambed Alteration Agreement: Caltrans applied for a Streambed Alteration Agreement on 18 May 2012. Lake & Streambed Alteration Agreement Number: 1600-2012-0122-R1

Possible Listed Species: Central Valley steelhead and spring-run Chinook salmon.

Status of CEQA Compliance: The California Department of Transportation, District 2 issued a final Notice of Determination approving a Mitigated Negative Declaration on 6 April 2012 in compliance with Section 21108 or 21152 of the Public Resources Code, stating the project will not have a significant effect on the environment. Mitigation measures were made a condition of approval. (State Clearinghouse Number 2010012049).

Compensatory Mitigation: Caltrans will enter into a formal agreement with Lassen National Forest (LNF) to provide LNF with $60,000 to implement a sediment reduction project adjacent to Mill Creek. LNF will stabilize approximately 4.2 miles of Forest Road 28N06 to reduce the amount of sediment entering Mill creek.

Application Fee Provided: On 30 May 2012 a certification application fee of $4,059.00 was submitted as required by 23 CCR §3833b(3)(A) and by 23 CCR §2200(e). A remaining certification fee of $1,699 was received on 29 June 2012 as required by 23 CCR §3833b(2)(A) and by 23 CCR § 2200(e).

STATE WATER RESOURCES CONTROL BOARD

WATER QUALITY ORDER NO. 2003 - 0017 - DWQ

STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR DREDGED OR FILL DISCHARGES THAT HAVE RECEIVED STATE WATER QUALITY CERTIFICATION (GENERAL WDRs)

The State Water Resources Control Board (SWRCB) finds that:

1. Discharges eligible for coverage under these General WDRs are discharges of dredged or fill material that have received State Water Quality Certification (Certification) pursuant to federal Clean Water Act (CWA) section 401.

2. Discharges of dredged or fill material are commonly associated with port development, stream channelization, utility crossing land development, transportation water resource, and flood control projects. Other activities, such as land clearing, may also involve discharges of dredged or fill materials (e.g., soil) into waters of the United States.

3. CWA section 404 establishes a permit program under which the U.S. Army Corps of Engineers (ACOE) regulates the discharge of dredged or fill material into waters of the United States.

4. CWA section 401 requires every applicant for a federal permit or license for an activity that may result in a discharge of pollutants to a water of the United States (including permits under section 404) to obtain Certification that the proposed activity will comply with State water quality standards. In California, Certifications are issued by the Regional Water Quality Control Boards (RWQCB) or for multi-Region discharges, the SWRCB, in accordance with the requirements of California Code of Regulations (CCR) section 3830 et seq. The SWRCB's water quality regulations do not authorize the SWRCB or RWQCBs to waive certification, and therefore, these General WDRs do not apply to any discharge authorized by federal license or permit that was issued based on a determination by the issuing agency that certification has been waived. Certifications are issued by the RWQCB or SWRCB before the ACOE may issue CWA section 404 permits. Any conditions set forth in a Certification become conditions of the federal permit or license if and when it is ultimately issued.

5. Article 4, of Chapter 4 of Division 7 of the California Water Code (CWC), commencing with section 13260(a), requires that any person discharging or proposing to discharge waste, other than to a community sewer system, that could affect the quality of the waters of the State,[1] file a report of waste discharge (ROWD). Pursuant to Article 4, the RWQCBs are required to prescribe waste discharge requirements (WDRs) for any proposed or existing discharge unless WDRs are waived pursuant to CWC section 13269. These General WDRs fulfill the requirements of Article 4 for proposed dredge or fill discharges to waters of the United States that are regulated under the State's CWA section 401 authority.

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[1] "Waters of the State" as defined in CWC Section 13050(e)

6. These General WDRs require compliance with all conditions of Certification orders to ensure that water quality standards are met.

7. The U.S. Supreme Court decision of *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*, 531 U.S. 159 (2001) (the *SWANCC* decision) called into question the extent to which certain "isolated" waters are subject to federal jurisdiction. The SWRCB believes that a Certification is a valid and enforceable order of the SWRCB or RWQCBs irrespective of whether the water body in question is subsequently determined not to be federally jurisdictional. Nonetheless, it is the intent of the SWRCB that all Certification conditions be incorporated into these General WDRs and enforceable hereunder even if the federal permit is subsequently deemed invalid because the water is not deemed subject to federal jurisdiction.

8. The beneficial uses for the waters of the State include, but are not limited to, domestic and municipal supply, agricultural and industrial supply, power generation, recreation, aesthetic enjoyment, navigation, and preservation and enhancement of fish, wildlife, and other aquatic resources.

9. Projects covered by these General WDRs shall be assessed a fee pursuant to Title 23, CCR section 3833.

10. These General WDRs are exempt from the California Environmental Quality Act (CEQA) because (a) they are not a "project" within the meaning of CEQA, since a "project" results in a direct or indirect physical change in the environment (Title 14, CCR section 15378); and (b) the term "project" does not mean each separate governmental approval (Title 14, CCR section 15378(c)). These WDRs do not authorize any specific project. They recognize that dredge and fill discharges that need a federal license or permit must be regulated under CWA section 401 Certification, pursuant to CWA section 401 and Title 23, CCR section 3855, et seq. Certification and issuance of waste discharge requirements are overlapping regulatory processes, which are both administered by the SWRCB and RWQCBs. Each project subject to Certification requires independent compliance with CEQA and is regulated through the Certification process in the context of its specific characteristics. Any effects on the environment will therefore be as a result of the certification process, not from these General WDRs. (Title 14, CCR section 15061(b)(3)).

11. Potential dischargers and other known interested parties have been notified of the intent to adopt these General WDRs by public hearing notice.

12. All comments pertaining to the proposed discharges have been heard and considered at the November 4, 2003 SWRCB Workshop Session.

13. The RWQCBs retain discretion to impose individual or general WDRs or waivers of WDRs in lieu of these General WDRs whenever they deem it appropriate. Furthermore, these General WDRs are not intended to supersede any existing WDRs or waivers of WDRs issued by a RWQCB.

IT IS HEREBY ORDERED that WDRs are issued to all persons proposing to discharge dredged or fill material to waters of the United States where such discharge is also subject to the water quality certification requirements of CWA section 401 of the federal Clean Water Act (Title 33 United States Code section 1341), and such certification has been issued by the applicable RWQCB or the SWRCB, unless the applicable RWQCB notifies the applicant that its discharge will be regulated through WDRs or waivers of WDRs issued by the RWQCB. In order to meet the provisions contained in Division 7 of CWC and regulations adopted thereunder, dischargers shall comply with the following:

1. Dischargers shall implement all the terms and conditions of the applicable CWA section 401 Certification issued for the discharge. This provision shall apply irrespective of whether the federal license or permit for which the Certification was obtained is subsequently deemed invalid because the water body subject to the discharge has been deemed outside of federal jurisdiction.

2. Dischargers are prohibited from discharging dredged of fill material to waters of the United States without first obtaining Certification from the applicable RWQCB or SWRCB.

CERTIFICATION

The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on November 19, 2003.

AYE: Arthur G. Baggett, Jr.
Peter S. Silva
Richard Katz
Gary M. Carlton
Nancy H. Sutley

NO: None.

ABSENT: None.

ABSTAIN: None.

Debbie Irvin
Clerk to the Board

PERMITS

STATE OF CALIFORNIA
DEPARTMENT OF FISH AND GAME
NOTIFICATION NO. 1600-2012-0122-R1

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND GAME
Region 1 – Northern
601 Locust Street
Redding, CA 96001
http://www.dfg.ca.gov

EDMUND G. BROWN, Jr., Governor
CHARLTON H. BONHAM, Director

November 16, 2012

Mr. Eric Orr
California Department of Transportation
1031 Butte Street
Redding, California 96001

Subject: Final Lake or Streambed Alteration Agreement
Notification No. 1600-2012-0122-R1
Mill Creek Bridge Scour Repair and Deck Rehabilitation Project

Dear Mr. Orr:

Enclosed is the final Streambed Alteration Agreement (Agreement) for the Mill Creek Bridge Scour Repair and Deck Rehabilitation Project (Project). Before the Department of Fish and Game (Department) may issue an Agreement, it must comply with the California Environmental Quality Act (CEQA). In this case, the Department, acting as a responsible agency, filed a notice of determination (NOD) on the same date it signed the Agreement. The NOD was based on information contained in the Mitigated Negative Declaration the lead agency prepared for the Project.

Under CEQA, filing a NOD starts a 30-day period within which a party may challenge the filing agency's approval of the project. You may begin your project before the 30-day period expires if you have obtained all necessary local, state, and federal permits or other authorizations. However, if you elect to do so, it will be at your own risk.

If you have any questions regarding this matter, please contact Ali Aghili at 530-225-2306 or aaghili@dfg.ca.gov.

Sincerely,

Ali Aghili
Senior Environmental Scientist

CALIFORNIA DEPARTMENT OF FISH AND GAME
NORTHERN REGION
601 LOCUST STREET
REDDING, CA 96001

STREAMBED ALTERATION AGREEMENT
NOTIFICATION NO. 1600-2012-0122-R1
Mill Creek

CALIFORNIA DEPARTMENT OF TRANSPORTATION
MILL CREEK BRIDGE SCOUR REPAIR AND DECK REHABILITATION PROJECT

This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Game (DFG) and the California Department of Transportation (Permittee) as represented by Mr. Eric Orr.

RECITALS

WHEREAS, pursuant to Fish and Game Code (FGC) section 1602, Permittee notified DFG on May 18, 2012 that Permittee intends to complete the project described herein.

WHEREAS, pursuant to FGC section 1603, DFG has determined that the project could substantially adversely affect existing fish or wildlife resources and has included measures in the Agreement necessary to protect those resources.

WHEREAS, Permittee has reviewed the Agreement and accepts its terms and conditions, including the measures to protect fish and wildlife resources.

NOW THEREFORE, Permittee agrees to complete the project in accordance with the Agreement.

PROJECT LOCATION

The project is located at the State Route (SR) 36 crossing of Mill Creek, tributary to the Sacramento River, at Post Mile (PM) 91.46 in the County of Tehama, State of California; Latitude 40.362695° North, Longitude 121.507511° West.

PROJECT DESCRIPTION

The project is limited to the rehabilitation of the existing bridge deck and the placement of rock slope protection (RSP) to repair existing scour damage and prevent future damage to the bridge foundations. Specific construction activities include:

- Establishing environmentally sensitive areas (ESAs) to protect habitats adjacent to the work area,

- Designating equipment and material staging areas,
- Constructing temporary access roads from the east bank of Mill Creek to the channel upstream and downstream from the bridge,
- Constructing temporary stream crossings upstream and downstream from the bridge using k-rail and clean washed gravel abutments to support the decks,
- Excavating approximately 180 cubic yards of streambed material to construct a temporary diversion channel to dewater the work area, and an additional 1,560 cubic yards to accommodate the placement of RSP at the bridge abutments and center pier,
- Capturing and relocating fish and other aquatic organisms from the dewatered stream reach,
- Placing approximately 230 cubic yards of backing rock around the abutments and the center pier to from a foundation for the RSP,
- Placing approximately 650 cubic yards of clean, 2-ton RSP over the backing rock to protect the bridge foundations,
- Removing the existing asphalt concrete (AC) bridge deck and replacing it with a new polyester AC surface,
- Removing and replacing the existing joint seals and the metal beam guard rails at either end of the bridge,
- Installing instream habitat enhancement and bank protection structures to improve habitat for juvenile salmonids, and
- Restoring and replanting riparian vegetation adjacent to the channel of Mill Creek within the work area following completion of work.

PROJECT IMPACTS

Existing fish or wildlife resources the project could substantially adversely affect include: Northern California steelhead (*Oncorhynchus mykiss*), Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha*), willow flycatcher (*Empidonax traillii*), yellow warbler (*Dendroica petechia brewsteri*) and other nesting resident and migratory birds, as well as other aquatic and riparian species.

The adverse effects the project could have on the fish or wildlife resources identified above include: direct mortality of fish and other aquatic organisms during capture and relocation efforts, potential mortality of nesting birds, eggs or young through vegetation removal and construction disturbance, as well as injury to downstream fish and benthic invertebrates through sediment transport and deposition and/or spills of deleterious materials.

The project will result in temporary impacts to 0.36 acre of montane black cottonwood forest (approximately 37 trees ranging from 3-14 inches dbh) and approximately 0.034 acre of white alder riparian scrub. There will be no permanent loss of riparian habitat associated with project construction.

MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

1 Administrative Measures

Permittee shall meet each administrative requirement described below.

1.1 Documentation at Project Site. Permittee shall make the Agreement, any extensions and amendments to the Agreement, and all related notification materials and California Environmental Quality Act (CEQA) documents, readily available at the project site at all times and shall be presented to DFG personnel, or personnel from another state, federal, or local agency upon request.

1.2 Providing Agreement to Persons at Project Site. Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement to all persons in responsible positions who will be working on the project at the project site on behalf of Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.

1.3 Notification of Conflicting Provisions. Permittee shall notify DFG if Permittee determines or learns that a provision in the Agreement might conflict with a provision imposed on the project by another local, state, or federal agency. In that event, DFG shall contact Permittee to resolve any conflict.

1.4 Project Site Entry. Permittee agrees that DFG personnel may enter the project site at any time to verify compliance with the Agreement.

2 Avoidance and Minimization Measures

To avoid or minimize adverse impacts to fish and wildlife resources identified above, Permittee shall implement each measure listed below.

PROJECT TIMING

2.1 General Work Period for Stream Channel and Banks. All work within the channel or on the stream banks shall be confined to the period commencing June 15 and ending October 15, of any year in which this Agreement is valid. If weather conditions permit and stream flows remain low, Permittee may perform work in the channel or on the stream banks after October 15 provided a written request is made to the Department at least 5 days before the proposed work period variance. Written approval from the Department for the work period variance must be received by the Permittee prior to the start or continuation of work after October 15.

2.2 Required Measures for Work after October 15. If work is performed within the channel or on the stream banks after October 15, the Permittee shall do all of the following:

a. Stage erosion and sediment control materials at the work site.

b. Monitor the seventy-two (72) hour forecast from the National Weather Service.

c. When the 72-hour forecast indicates a probability of precipitation of 60% or greater, or at the onset of any precipitation, ground disturbing activities shall cease and erosion control measures shall be implemented to stabilize exposed soils and prevent the mobilization of sediment into the stream channel or adjacent wetland or riparian areas.

HABITAT AND SPECIES PROTECTION

2.3 Delineating Limits of Work. Prior to initiating vegetation- or ground-disturbing Project activities, Permittee shall clearly delineate the limits of the work area. Permittee shall restrict all Project activities to the designated work area and shall maintain all fencing, stakes and flags until the completion of Project activities.

2.4 Minimize Loss of Riparian Vegetation. Removal of existing riparian vegetation shall not exceed the minimum necessary to complete operations.

2.5 Environmentally Sensitive Areas. All vegetated areas beyond the construction limits shall be protected as Environmentally Sensitive Areas (ESAs) and shall be off limits to construction equipment and personnel except as specifically authorized in this Agreement.

2.6 Installation of ESA Fencing. ESA fencing shall be installed as the first order of work. The placement of ESA fencing shall be inspected and approved by DFG prior to the initiation of work. Permittee shall provide written notification for inspection a minimum of 5 working days prior to beginning work. If DFG is unable to conduct a site inspection during this period, the inspection may be conducted by the Environmental Construction Liaison and the results forwarded to DFG for approval.

2.7 ESA Fencing Shown on Project Plans. ESA fencing shall consist of temporary orange construction fence or other highly visible material that clearly delineates the limits of the work area. Environmentally Sensitive Areas shall be clearly shown on the Project plans and drawings. The Permittee shall ensure that the contractor, subcontractors, and all personnel working on the Project are instructed on the purpose of the ESA fencing and understand the limits of the work area.

2.8 Vegetation Removal Period. Removal of trees and shrubs from the work area shall take place between September 1 and March 15 to avoid impacts to nesting birds.

2.9 Salvage of Large Woody Debris. If large woody debris (LWD) must be removed from the channel or banks during project activities, it shall be stockpiled on site and returned to the stream channel below the bridge following completion of construction.

2.10 Bird Deterrent Plan. Permittee shall prepare and implement a bird deterrent plan to avoid adverse impacts to nesting willow flycatchers adjacent to the work area. The plan shall include the following elements:

- A continuous construction presence shall be in effect without interruption from May 15 until August 31, or such time as the project is complete.
- A continuous construction presence is defined as actual construction activity or equivalent noise that meets the minimum threshold of 85 dBA hourly average.
- Continuous construction presence will be required at the southeast quadrant of the project (south staging area) for at least 8 daylight hours and 5 days of every week (excluding holidays) between May 15 and August 31.
- Reflective mylar bird deterrent strips will be hung from existing willow shrubs within 50 feet of the ESA Fence in the southeast quadrant to deter nesting adjacent to the work area.
- Placement of bird deterrent strips shall be determined by the environmental construction liaison in consultation with DFG.

CONSTRUCTION DEWATERING AND FISH RELOCATION

2.11 Work Period for Instream Construction. Notwithstanding Measures 2.1 and 2.2 above, all work within the wetted channel, including but not limited to, channel diversions, temporary crossings, placement of RSP, or installation of habitat enhancement structures shall be confined to the period commencing July 1 and ending August 31. If the channel is dry prior to July 1, work may commence in the dry areas.

2.12 Isolating Work Area from Flow. If water is present during construction, all work shall be performed in isolation from surface or subsurface flow. If stream flow is present, a temporary stream diversion shall be constructed to isolate the work area from flow.

2.13 Temporary Stream Diversion. The temporary stream diversion shall comply with the Caltrans Construction Site Best Management Practices (BMP) Manual and may include use of K-rails, water bladders, coffer dams, gravel berms and impermeable membranes, or other suitable materials.

2.14 Excavation of Temporary Diversion Channel. A temporary diversion channel may be excavated utilizing the existing high flow channel between the center pier and the east bridge abutment. Excavation shall proceed from the downstream end of the diversion channel upstream to the point of diversion above the bridge. The depth of the temporary diversion channel shall not exceed the depth of the active channel between the center pier and the west bridge abutment.

2.15 Diversion Channel to Accommodate Stream Flows. The temporary diversion shall be adequately sized to accommodate the full range of flows that may occur during the diversion period without overtopping into the work area and shall not impede the upstream or downstream passage of adult and juvenile fish.

2.16 Preventing Discharge of Deleterious Materials. Dewatering shall be done in a manner that prevents the discharge of material that could be deleterious to fish, plants or other aquatic life and maintains adequate flows to downstream reaches during all times natural flow would have supported aquatic life.

2.17 Post-Construction Channel Configuration. When work has been completed on the bridge pier and west abutment, stream flows shall be returned to a single-thread channel on the right (looking downstream) side of the bridge pier. The upper portions of the diversion channel shall be restored to pre-construction elevations to prevent split or braided flows during the summer base flow period.

2.18 Backfill Material within the Channel. Voids within the RSP and areas of excavation within the channel shall be backfilled with native streambed material in order to seal the channel and maintain surface flows. Native streambed material shall be jetted into the substrate until refusal in order to seal the channel. Native streambed material may me topped with up to six inches of clean, washed spawning gravel as specified in Measure to 2.26 to achieve final grades within the channel.

2.19 Screening of Pump Intakes. If a pump is necessary to accelerate the dewatering, the pump intake must be double-screened to prevent fish from being pumped out with the water. The pump screens shall meet NMFS/DFG screening criteria.

2.20 Proper Disposal of Turbid Water. If subsurface flow is present, any turbid water pumped from the work area shall be used for construction purposes (compaction, dust abatement, etc.) or properly disposed of in an upland area where it will not drain to surface waters or wetlands.

2.21 Fish Capture and Relocation by a Qualified Fisheries Biologist. A qualified fisheries biologist shall capture and relocate fish using seining and electrofishing methods prior to stream dewatering. Fish salvage operations shall take place early in the day prior to thermal warming to reduce stress on fish. If all fish cannot be captured using a seine, then electrofishing will be used to capture remaining individuals.

2.22 Handling of Fish Prior to Release. Fish captured during salvage operations shall be immediately transferred to buckets containing oxygenated stream water. Fish will be placed in separate buckets by size class to reduce predation and maintained in a shaded environment pending release. Fish captured from each seine haul will be released at least 100 feet downstream from the work area prior to the next haul.

2.23 Notification Prior to Fish Salvage. Permittee shall notify NMFS and DFG at least one week prior to fish relocation activities to provide an opportunity for NMFS and DFG staff to be present during these activities.

2.24 Water Drafting from Fish-Bearing Streams. Water drafting from fish bearing streams shall comply with the National Marine Fisheries Service's *Water Drafting Specifications* dated August 2001.

TEMPORARY STREAM CROSSINGS AND ROCK SLOPE PROTECTION

2.25 Temporary Stream Crossings. Temporary stream crossings may be constructed upstream and downstream of the existing bridge using K-rail, clean washed gravel or a combination of the two to support the decking.

2.26 Specifications for Clean, Washed Gravel. Clean, washed gravel used for diversion berms, temporary access roads, work pads, and stream crossings in the channel shall be clean, pre-washed, uncrushed natural river rock. Gravel must be washed at least once and have cleanliness value of 85 or higher (California Test No. 227). Particle size shall be graded with 95-100% passing a 4- or 5-inch screen, 75-85% passing a 2-inch screen, 40-50% passing a 1-inch screen, 25-35% passing a 3/4-inch screen, 10-20% passing a 1/2-inch screen, and 0-5% passing a 1/4-inch screen (% by dry wt) or approved by the Department. Gravel must be completely free of oils or any other petroleum based material, clay, debris, and other types of organic matter. Gravel may be stockpiled near the injection site, but mixing with any earthen material is prohibited.

2.27 Gravel Left within the Channel. Clean, washed gravel used for diversion berms, temporary access roads, work pads, and stream crossings may be left in the channel following construction provided it is spread to a depth less than 6 inches and does not impede the movement of fish or other aquatic organism, or redirect stream flows.

2.28 Removal of Construction Materials from the Channel Prior to October 15. All falsework, forms, supports or other temporary structures and construction materials not designed to withstand high flows shall be removed from the stream channel prior to October 15 unless written approval for a work period variance has been obtained from DFG.

2.29 Materials for Rock Slope Protection. RSP and energy dissipation materials shall consist of clean rock, competent for the application, sized and properly installed to resist washout. RSP slopes shall be supported with competent boulders keyed into a footing trench with a depth sufficient to properly seat the footing course boulders and prevent instability (typically at least 1/3 diameter of footing course boulders). Excavation spoils shall not be side-cast into the channel nor is any manipulation of the substrate of the channel authorized except as herein expressly provided.

PETROLEUM, CHEMICAL AND OTHER POLLUTANTS

2.30 Storage of Materials. All construction-related materials and equipment shall be stored in designated staging areas outside of the floodplain.

2.31 Refueling. Refueling and vehicle maintenance shall be performed at least 150 feet from streams or other water bodies unless approved in writing by DFG.

2.32 Use of Equipment Prohibited in Live Streams. No equipment or machinery shall be operated within any flowing stream.

2.33 Maintenance and Inspection of Equipment to Prevent Leaks. Any equipment or vehicles driven and/or operated within or adjacent to the stream channel shall be checked and maintained daily to prevent leaks of materials that could be deleterious to aquatic and terrestrial life or riparian habitat.

2.34 Drip Pans. Stationary equipment such as motors, pumps, generators, and welders that contain deleterious materials, located adjacent to the stream channel shall be positioned over drip pans.

2.35 Disposal of Concrete Water. Water that has been in contact with uncured concrete shall be contained in a concrete washout facility, Baker tank, or other impervious container and shall not be discharged to surface or ground waters.

2.36 Spill Containment, Clean up and Discharge Notification. All construction activities performed in or near the stream shall have absorbent materials designated for spill containment and clean up activities on-site for use in an accidental spill. In the event of a discharge, the Permittee shall immediately notify the California Emergency Management Agency at 1-800-852-7550 and immediately initiate clean up activities. DFG shall be notified by the Permittee and consulted regarding clean-up procedures

2.37 Pollution of Waters of the State Prohibited. No debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete or washings thereof, asphalt, paint or other coating material, oil or petroleum products or other organic or earthen material from any construction, or associated activity of whatever nature shall be allowed to enter into, or placed where it may be washed by rainfall or runoff into, waters of

the State. When operations are completed, any excess materials or debris shall be removed from the work area. No rubbish shall be deposited within 150 feet of the high water mark of any stream or lake.

EROSION AND SEDIMENT CONTROL

2.38 Erosion Control Measures Required. The project shall at all times feature adequate erosion and sediment control devices to prevent the degradation of water quality.

2.39 Installation and Maintenance of Best Management Practices. Soils exposed by project operations shall be treated to prevent sediment runoff and transport. Erosion control measures shall include the proper installation and maintenance of approved Best Management Practices (BMPs) and may include applications of seed, weed-free straw, compost, fiber, commercial fertilizer, stabilizing emulsion and mulch, or combinations thereof.

2.40 Weed-free Materials. Permittee shall use only weed-free erosion control materials to prevent the spread of invasive plant species.

2.41 Soil Stabilization and Sediment Prevention. Soils adjacent to the stream channel that are exposed by project operations shall be adequately stabilized when rainfall is reasonably expected during construction, and immediately upon completion of construction, to prevent the mobilization of such sediment into the stream channel or adjacent riparian areas. National Weather Service forecasts shall be monitored by the Permittee to determine the chance of precipitation.

2.42 Post-Construction Seeding. Following construction, all disturbed areas shall be stabilized and reseeded with a regionally appropriate California native seed mix.

2.43 Replacement of Riparian Vegetation. Riparian vegetation shall be replanted on site at a 3:1 ratio based on the number of trees and shrubs removed or damaged. All riparian plantings shall be maintained for 5 years with replacement plantings as necessary to insure full and rapid recovery of disturbed riparian habitat.

3 Compensatory Measures

To compensate for adverse impacts to fish and wildlife resources identified above that cannot be avoided or minimized, Permittee shall implement each measure listed below.

3.1 Sediment Reduction. Permittee shall contribute $50,000 to the U.S, Forest Service to reduce sediment going into salmonid habitat in the upper Mill Creek drainage. Sediment reduction treatments shall be applied to approximately 4.2 miles of Forest Service Road 28N06 which parallels Mill Creek east of the project site.

3.2 Enhance Juvenile Rearing Habitat. Habitat enhancement structures will be placed in-stream to improve rearing habitat for juvenile salmonids. Locations for

individual structures will be identified by DFG and NMFS. Habitat enhancements may include, but are not limited to, addition of large woody debris, root wads, boulder clusters, or vegetated bank stabilization treatments. Construction of habitat enhancement structures shall conform to DFG's *California Salmonid Stream Habitat Restoration Manual.* Construction equipment and personnel shall be allowed limited access within designated ESA's for the purpose of installing habitat enhancement structures.

4 Reporting Measures

Permittee shall meet each reporting requirement described below.

4.1 Post-Construction Monitoring and Annual Reporting. Permittee shall provide an annual report to DFG and NMFS upon completion of construction and for five years thereafter. Reports shall be submitted by December 31 of each year. The first year report shall document the number of fish and other aquatic organisms captured and relocated throughout the duration of the project. The report shall summarize the number of fish by species and age class, including any mortalities occurring during fish salvage operations. Subsequent annual reports shall document the survival, growth and vigor of riparian plantings, including any replacement plantings required. The report shall also document stream channel cross-sections and flow velocities at the upstream and downstream edges of the bridge to document any changes in channel configuration.

CONTACT INFORMATION

Any communication that Permittee or DFG submits to the other shall be in writing and any communication or documentation shall be delivered to the address below by U.S. mail, fax, or email, or to such other address as Permittee or DFG specifies by written notice to the other.

To Permittee:

Mr. Eric Orr
Department of Transportation
1031 Butte Street
Redding, CA 96001
Fax: (530) 225-3146
Email: eric.orr@dot.ca.gov

To DFG:

Department of Fish and Game
Northern Region
601 Locust Street
Redding, CA 96001
Attn: Lake and Streambed Alteration Program – Craig Martz
Notification #1600-2012-0122-R1
Fax: (530) 225-2267
Email: cmartz@dfg.ca.gov

LIABILITY

Permittee shall be solely liable for any violations of the Agreement, whether committed by Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents or contractors and subcontractors, to complete the project or any activity related to it that the Agreement authorizes.

This Agreement does not constitute DFG's endorsement of, or require Permittee to proceed with the project. The decision to proceed with the project is Permittee's alone.

SUSPENSION AND REVOCATION

DFG may suspend or revoke in its entirety the Agreement if it determines that Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, is not in compliance with the Agreement.

Before DFG suspends or revokes the Agreement, it shall provide Permittee written notice by certified or registered mail that it intends to suspend or revoke. The notice shall state the reason(s) for the proposed suspension or revocation, provide Permittee an opportunity to correct any deficiency before DFG suspends or revokes the Agreement, and include instructions to Permittee, if necessary, including but not limited to a directive to immediately cease the specific activity or activities that caused DFG to issue the notice.

ENFORCEMENT

Nothing in the Agreement precludes DFG from pursuing an enforcement action against Permittee instead of, or in addition to, suspending or revoking the Agreement.

Nothing in the Agreement limits or otherwise affects DFG's enforcement authority or that of its enforcement personnel.

OTHER LEGAL OBLIGATIONS

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from obtaining any other permits or authorizations that might be required under other federal, state, or local laws or regulations before beginning the project or an activity related to it.

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with other applicable statutes in the FGC including, but not limited to, FGC sections 2050 et seq. (threatened and endangered species), 3503 (bird nests and eggs), 3503.5 (birds of prey), 5650 (water pollution), 5652 (refuse disposal into water), 5901 (fish passage), 5937 (sufficient water for fish), and 5948 (obstruction of stream).

Nothing in the Agreement authorizes Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, to trespass.

AMENDMENT

DFG may amend the Agreement at any time during its term if DFG determines the amendment is necessary to protect an existing fish or wildlife resource.

Permittee may amend the Agreement at any time during its term, provided the amendment is mutually agreed to in writing by DFG and Permittee. To request an amendment, Permittee shall submit to DFG a completed DFG "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the corresponding amendment fee identified in DFG's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

TRANSFER AND ASSIGNMENT

This Agreement may not be transferred or assigned to another entity, and any purported transfer or assignment of the Agreement to another entity shall not be valid or effective, unless the transfer or assignment is requested by Permittee in writing, as specified below, and thereafter DFG approves the transfer or assignment in writing.

The transfer or assignment of the Agreement to another entity shall constitute a minor amendment, and therefore to request a transfer or assignment, Permittee shall submit to DFG a completed DFG "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the minor amendment fee identified in DFG's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

EXTENSIONS

In accordance with FGC section 1605(b), Permittee may request one extension of the Agreement, provided the request is made prior to the expiration of the Agreement's term. To request an extension, Permittee shall submit to DFG a completed DFG "Request to Extend Lake or Streambed Alteration" form and include with the completed form payment of the extension fee identified in DFG's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5). DFG shall process the extension request in accordance with FGC 1605(b) through (e).

If Permittee fails to submit a request to extend the Agreement prior to its expiration, Permittee must submit a new notification and notification fee before beginning or continuing the project the Agreement covers (Fish & G. Code, § 1605, subd. (f)). .

EFFECTIVE DATE

The Agreement becomes effective on the date of DFG's signature, which shall be: 1) after Permittee's signature; 2) after DFG complies with all applicable requirements under the California Environmental Quality Act (CEQA); and 3) after payment of the applicable FGC section 711.4 filing fee listed at: http://www.dfg.ca.gov/habcon/ceqa/ceqa_changes.html.

TERM

This Agreement shall expire on December 31, 2014, unless it is terminated or extended before then. All provisions in the Agreement shall remain in force throughout its term. Permittee shall remain responsible for implementing any provisions specified herein to protect fish and wildlife resources after the Agreement expires or is terminated, as FGC section 1605(a) (2) requires.

EXHIBITS

The documents listed below are included as exhibits to the Agreement and incorporated herein by reference.

A. Exhibit 1. *Scour Repair and Bridge Deck Rehabilitation at Mill Creek Bridge (Bridge No. 08-0133) Initial Study with Mitigated Negative Declaration.* California Department of Transportation. April 2012.

B. Exhibit 2. *Biological Opinion and Incidental Take Statement No. 151422SWR-2009-00570.* National Marine Fisheries Service, Southwest Region. March 29, 2012.

C. Exhibit 3. *California Endangered Species Act Consistency Determination No. 2080-2012-012-01.* Department of Fish and Game. July 20, 2012.

D. Exhibit 4. *California Salmonid Stream Habitat Restoration Manual (Fourth Edition)*. California Resources Agency. Department of Fish and Game. Wildlife and Fisheries Division. July 2010.

AUTHORITY

If the person signing the Agreement (signatory) is doing so as a representative of Permittee, the signatory hereby acknowledges that he or she is doing so on Permittee's behalf and represents and warrants that he or she has the authority to legally bind Permittee to the provisions herein.

AUTHORIZATION

This Agreement authorizes only the project described herein. If Permittee begins or completes a project different from the project the Agreement authorizes, Permittee may be subject to civil or criminal prosecution for failing to notify DFG in accordance with FGC section 1602.

CONCURRENCE

The undersigned accepts and agrees to comply with all provisions contained herein.

FOR DEPARTMENT OF TRANSPORTATION

Eric Orr
Project Manager

11/15/12
Date

FOR DEPARTMENT OF FISH AND GAME

for Curt Babcock
Habitat Conservation Program Manager

11, 16, 12
Date

Prepared by: Craig Martz, Staff Environmental Scientist

PERMITS

UNITED STATES ARMY CORPS OF ENGINEERS
NON-REPORTING NATIONWIDE 404 PERMIT

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO CA 95814-2922

REPLY TO
ATTENTION OF

July 3, 2012

Regulatory Division (SPK-2010-00148)

State of California
Department of Transportation
Office of Environmental Management – MS30
Attn: Mr. Chris Quiney
Post Office Box 496073
Redding, California 96049-6073

Dear Mr. Quiney:

We are responding to your, May 30, 2012, request for a Preliminary Jurisdictional Determination and a Department of the Army Nationwide Permit (NWP) verification for the State Route 36 Mill Creek Bridge Scour Repair and Deck Rehabilitation project. We reviewed your pre-construction notification and determined that it was complete on June 14, 2012.

This approximately 5.1-acre project involves activities, including discharges of dredged or fill material, in waters of the United States to rehabilitate the deck of Mill Creek Bridge, and to place rock slope protection at the bridge foundation to prevent further scour damage. As part of the mitigation for this project, one large woody debris structure, several large boulders, and willow cuttings will be strategically placed within the channel of Mill Creek to enhance juvenile salmonid rearing habitat. The project is located on State Route 26, approximately 0.24 mile east of the junction of State Route 172, Section 23, Township 29 North, Range 4 East, Mount Diablo Meridian, Latitude 40.36272°, Longitude -121.50748°, Tehama County, California.

Based on available information, we concur with the amount and location of other water bodies on the site as depicted on the enclosed, May 2012, *Figure 5: Preliminary Delineation of Waters of the U.S.* drawing prepared by California Department of Transportation (Caltrans) Senior Environmental Planner, Ms. Sharon Stacey. The Approximately 0.971 acre of wetlands and other water bodies present within the survey area are potential waters of the United States regulated under Section 404 of the Clean Water Act. A copy of our RGL 08-02 Preliminary Jurisdictional Determination Form for this site is enclosed. Please sign and return a copy of the completed form to this office.

Additionally, based on the information you provided, the proposed activity, resulting in the permanent loss of approximately 0.07 acre of open water, and temporary impacts to approximately 0.193 acre of open water, as well as the permanent loss of approximately 0.003 acre of wetlands, and temporary impacts to approximately 0.041 acre of wetlands, is authorized by Nationwide Permit Number 14 – Linear Transportation Projects, and Nationwide Permit Number 27 – Aquatic Habitat Restoration, Establishment, and Enhancement Activities. However, until Section 401 Water Quality Certification for the activity has been issued or waived, our authorization is denied without prejudice. Once you have provided us evidence of water quality certification, the activity is authorized and the work may proceed subject to the conditions of certification and the Nationwide Permits.

Furthermore, we understand the State of California, Department of Transportation (Caltrans) is the National Environmental Policy Act (NEPA) lead Federal agency for this project, and as such, will ensure the authorized work complies with the NEPA, the Endangered Species Act, the National Historical Preservation Act, and any other applicable federal laws. Your work must comply with the following General Conditions listed on the enclosed *Nationwide Permit Summary* sheet, the regional Conditions listed on the enclosed *Final Sacramento District Regional Conditions for California, excluding the Lake Tahoe Basin,* and the following special conditions:

Special Conditions

1. To mitigate for the loss 0.073 acre of wetlands and other waters of the United States, and temporary impacts, including the temporal loss of functions and services, to 0.234 acre of wetlands and waters of the United States, you shall submit a check in the amount of $13,710, payable to the National Fish and Wildlife Foundation (NFWF). Thomes Creek-Sacramento River, Hydrologic Unit Code #18020156, must be indicated in the in-lieu fee agreement in order to insure the proper location of future mitigation. Within fourteen (14) days of receiving a receipt that your fees have been deposited, you shall submit a copy (typically Exhibit B) to this office for recordation.

2. You shall develop a final comprehensive mitigation and monitoring plan, which must be approved by the Army Corps of Engineers prior to initiation of construction activities within waters of the U.S. This plan will describe the juvenile salmonid habitat enhancement required by Condition 6 of the National Marine Fisheries Service's (NFWF), March 29, 2012, Biological Opinion for this project, as well as the restoration of those areas temporarily impacted by construction activities. The plan shall be presented in the format of the Sacramento District's Habitat Mitigation and Monitoring Proposal Guidelines, dated December 30, 2004. Monitoring shall be conducted for a minimum of five growing seasons after completion of the restoration activities.

a. The plan shall include the following information:

1. A description of and drawings showing the NFWF required juvenile slamonid habitat enhancement. A description of and drawings showing the existing contours (elevation) and existing vegetation of the temporary impact areas. This information shall include site photographs taken of the temporary impact area.

2. The methods used to restore the site to the original contour and conditions, as well as a plan for the revegetation of the site following construction activities.

3. The proposed schedule for the restoration activities, and;

b. Within 30 days following completion of restoration activities, submit to the Corps a report describing the restoration and enhancement activities, including color photographs of the restored areas. The compass angle and position of all photographs shall be similar to pre-construction photographs.

c. Submit to the Corps a Monitoring Report by October 1 of each year of required monitoring period. This report shall be submitted in the format shown on the enclosed Regulatory Guidance Letter 08-03, dated 10 October 2008, or subsequent guidance as appropriate. Reports may be submitted in hard copy or sent electronically to regulatory-info@usace.army.mil.

3. This permit is contingent upon the permittee applying for and being issued a Section 401 Water Quality Certification. Evidence of a water quality certification must be submitted to this office, prior to commencing work in Waters of the U.S. All terms and conditions of the Section 401 Water Quality Certification are expressly incorporated as conditions of this permit.

4. This Corps permit does not authorize you to take an endangered species, in particular Central Valley (CV) spring-run Chinook salmon evolutionarily significant unit (*Oncorhynchus tshawytscha*) and California CV steelhead distinct population segment (DPS) (*O. mykiss*), or designated critical habitat. In order to take a listed species legally, you must have separate authorization under the Endangered Species Act (e.g., an Endangered Species Act Section 10 permit, or a Biological Opinion under Endangered Species Act Section 7, with "incidental take" provisions with which you must comply). The enclosed National Marine Fisheries Service Biological Opinion (Number 2009/06533, dated March 29, 2012), contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the Biological Opinion. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with "incidental take" of the attached Biological Opinion, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the Biological Opinion, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The National Marine Fisheries Service is the appropriate authority to determine compliance with the terms and conditions of their Biological Opinion, and with the Endangered Species Act. You must comply with all conditions of this Biological Opinion, including those ascribed to the Corps.

5. To ensure your project complies with the Magnuson-Stevens Fishery and Consultation Act, you must implement all of the mitigating measures and Essential Fish Habitat (EFH) Conservation Recommendations identified in the enclosed National Marine Fisheries concurrence letter (NMFS# 2009/06533) dated, March 29, 2012.

6. All equipment staging, including Temporary Construction Areas (TCA's), shall take place within Corps of Engineers approved areas within the project boundary. Prior to construction implementation, you shall ensure all equipment staging, TCA's, demolition and excavation, off pavement detours, borrow and fill areas, and upland disposal areas have been evaluated under National Environmental Policy Act, Section 401 and 404 of the Clean Water Act, Section 7 of the Endangered Species Act and Section 106 of the National Historical Preservation Act and all required permits have been obtained.

7. Excavated materials shall only be placed in upland locations. The upland disposal site(s) shall be delineated for waters of the U.S. and must be approved by the Corps of Engineers prior to disposal.

8. You shall follow specifications and standards described in the Storm Water Pollution Prevention Plan (SWPPP) and/or Water Pollution Control Plan (WPCP), to prevent erosion and sedimentation during and after construction. Construction work within waters of the U. S. shall be performed when the flows are at their seasonal low or when they have ceased and the areas are dry, typically late summer through early fall.

9. Between construction seasons all equipment and materials, with the exception of ESA fencing and temporary falsework shall be removed from waters of the U.S. and all disturbed areas shall be stabilized to prevent erosion and sedimentation.

10. If any of the above conditions are violated or unauthorized activities occur, you shall stop work immediately and notify the Sacramento District, Regulatory Division Office. You shall provide us with a detailed description of the unauthorized activity(s), photo documentation, and any measures taken to remedy the violation.

11. Within 30 days after completion of the authorized work, you must sign the enclosed *Compliance Certification* form and return it to this office.

This verification is valid for two years from the date of this letter or until the Nationwide Permit is modified, reissued, or revoked, whichever comes first. Failure to comply with the General and Regional Conditions of this Nationwide Permit, or the project-specific Special Conditions of this authorization, may result in the suspension or revocation of your authorization.

We would appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey on our website under *Customer Service Survey.*

Please refer to identification number SPK-2010-00148 in any correspondence concerning this project. If you have any questions, please contact Mr. Jason Deters at our California South Branch Office, 1325 J Street, Room 1350, Sacramento, California 95814-2922, email *Jason.Deters@usace.army.mil*, or telephone 916-557-7152. For more information regarding our program, please visit our website at *www.spk.usace.army.mil/Missions/Regulatory.aspx*.

Sincerely,

Paul Maniccia
Chief, California South Branch

Enclosure(s)

Copy Furnished without enclosure(s)
California Regional Water Quality Control Board, Central Valley Region, Redding Branch Office, 415 Knollcrest Drive, Redding, California 96002
California Department of Fish and Game, Northern Region, 601 Locust Street, Redding, California 96001
U. S. Fish and Wildlife Service, Forest-Foothills Division, 2800 Cottage Way, Sacramento, California 95825
Mr. Paul Jones, U.S. Environmental Protection Agency, Wetlands Office, WTR9, 75 Hawthorne Street, San Francisco, California 94105-3920

COMPLIANCE CERTIFICATION

Permit File Number: SPK-2010-00148

Nationwide Permit Number: 14 – Linear Transportation Projects and
27 – Aquatic Habitat Restoration, Establishment, and Enhancement Activities

Permittee: Mr. Chris Quiney
California Department of Transportation
Office of Environmental Management -MS30
Redding, California 96049-6073

County: Tehama

Date of Verification: July 3, 2012

Within 30 days after completion of the activity authorized by this permit, sign this certification and return it to the following address:

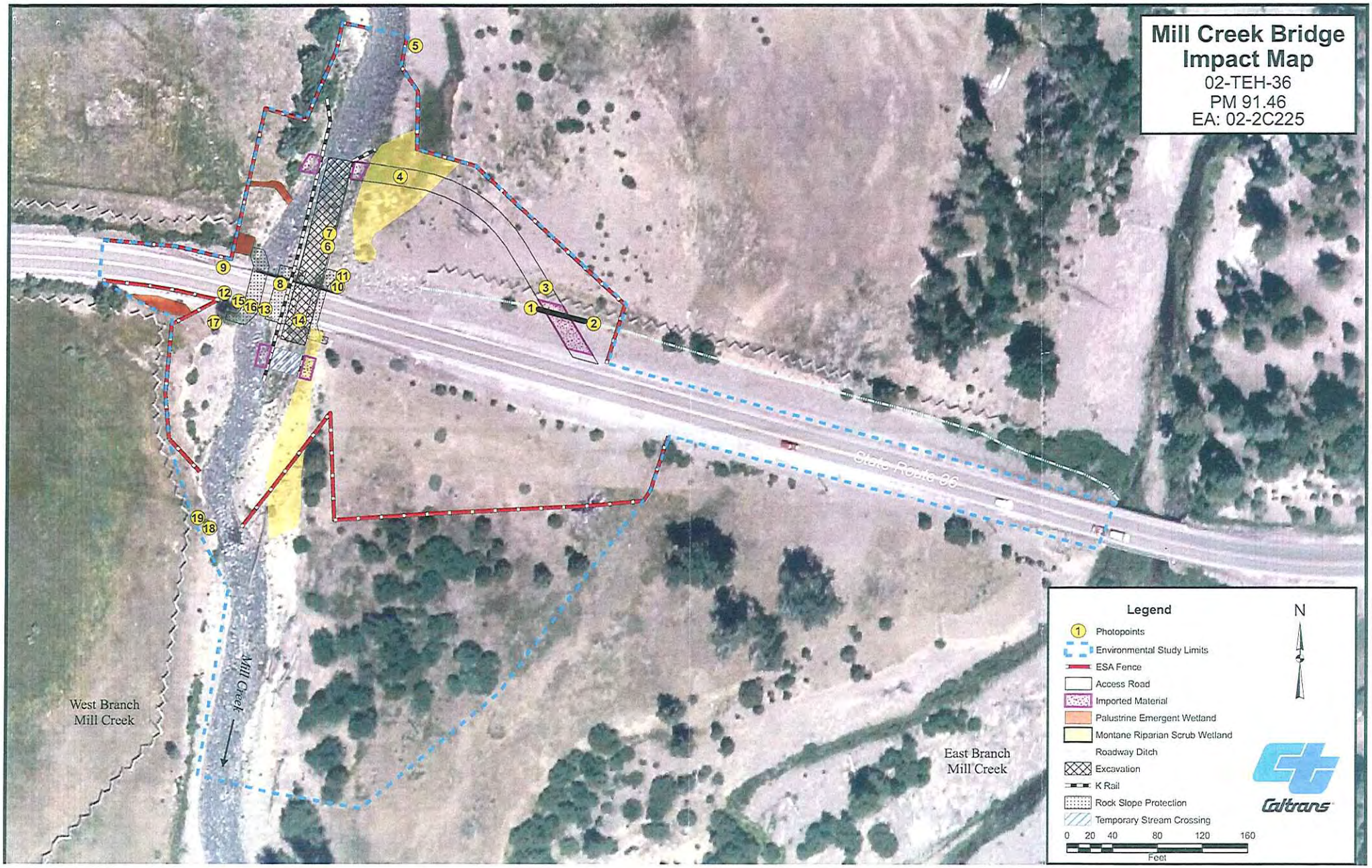
U.S. Army Corps of Engineers
Sacramento District
1325 J Street, Room 1350
Sacramento, California 95814-2922
DLL-CESPK-RD-Compliance@usace.army.mil

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with the terms and conditions of the permit your authorization may be suspended, modified, or revoked. If you have any questions about this certification, please contact the Corps of Engineers.

* * * * * * * * *

I hereby certify that the work authorized by the above-referenced permit, including all the required mitigation, was completed in accordance with the terms and conditions of the permit verification.

_____ _____
Signature of Permittee Date


Mill Creek Bridge
Impact Map
02-TEH-36
PM 91.46
EA: 02-2C225
State Route 96
West Branch
Mill Creek
Mill Creek
East Branch
Mill Creek
Legend
Photopoints
Environmental Study Limits
ESA Fence
Access Road
Imported Material
Palustrine Emergent Wetland
Montane Riparian Scrub Wetland
Roadway Ditch
Excavation
K Rail
Rock Slope Protection
Temporary Stream Crossing
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Feet
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Caltrans

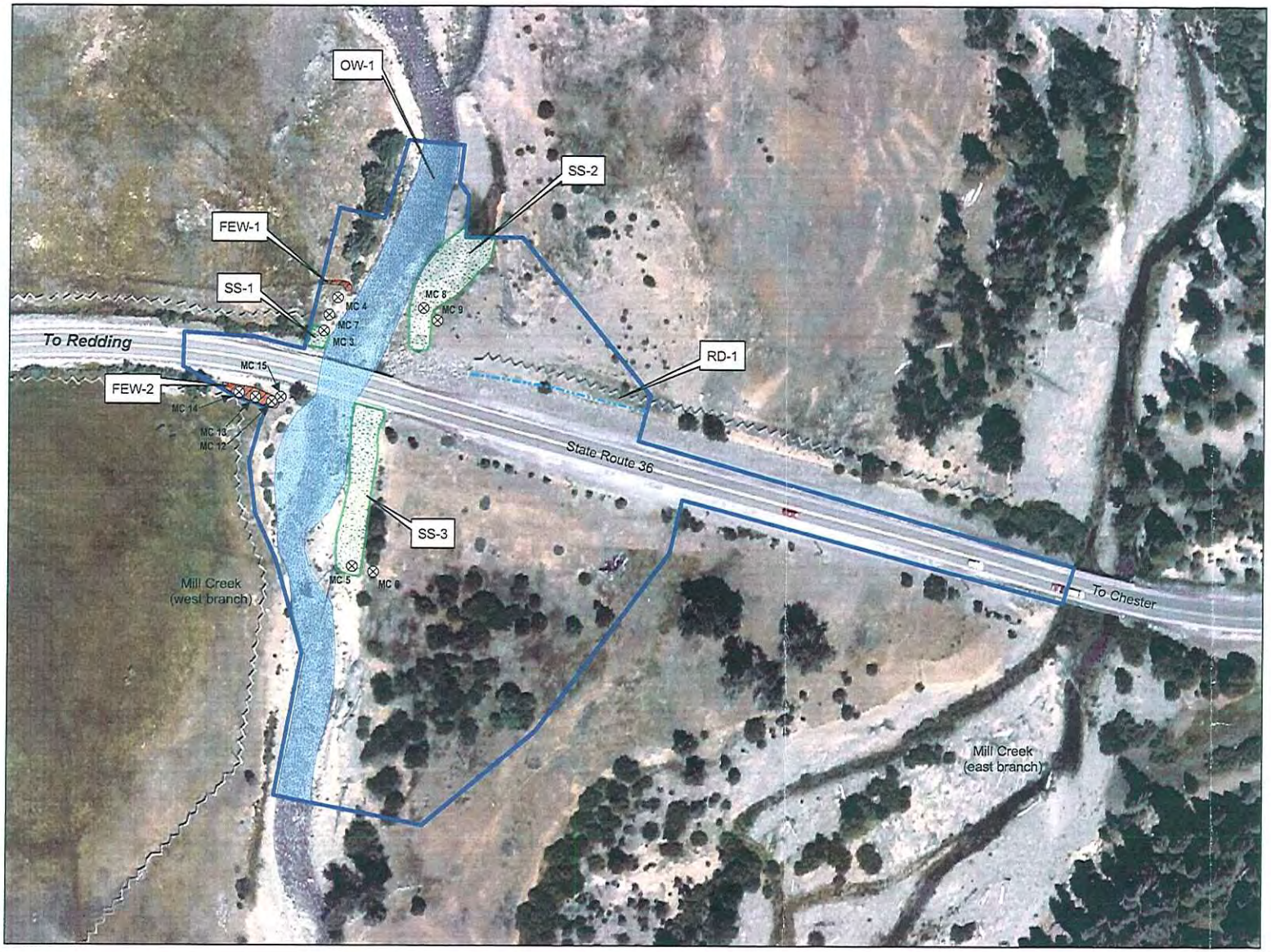

Figure 5.
Preliminary Delineation
of Waters of the U.S.

- ⊗ Wetland Data Point
- Palustrine Emergent
- Roadway Ditch
- Montane Riparian Scrub
- Waters
- Environmental Study Limits

Wetlands

Feature ID	Type	Area (ac)
FEW-1	Palustrine emergent	0.004
FEW-2	Palustrine emergent	0.015
SS-1	Scrub-shrub	0.009
SS-2	Scrub-shrub	0.113
SS-3	Scrub-shrub	0.107
	Total Wetlands	0.248

Other waters, open channel

Feature ID	Length (ft)	Width (ft)	Area (ac)
OW-1	707.05	43.5 (average)	0.706
OW-2	188.59	4	0.017
		Total Waters	0.723

N

0 25 50 100 150 200
Feet

1 inch = 100 feet

Prepared by S. Stacey, May 2012

PRELIMINARY JURISDICTIONAL DETERMINATION FORM
Sacramento District

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Regulatory Branch: **California South** File/ORM #: **SPK-2010-00148** PJD Date: **July 3, 2012**

State: **CA** City/County: **, Tehama County**
Nearest Waterbody: **Mill Creek**

Location (Lat/Long): **40.36272°, -121.50748°**

Size of Review Area: **5.1** acres

Name/Address Of Property Owner/ Potential Applicant: **Chris Quiney**
California Department of Transportation
Office of Environmental Management
Redding, California 96049-6073

Identify (Estimate) Amount of Waters in the Review Area
Non-Wetland Waters:
linear feet ft wide **0.723** acre(s)
Stream Flow: **Perennial**

Wetlands: **0.248** acre(s) Cowardin Class: **Palustrine, scrub-shrub**

Name of any Water Bodies on the site identified as Section 10 Waters: Tidal:
Non-Tidal:

☒ Office (Desk) Determination
☐ Field Determination:
Date(s) of Site Visit(s):

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply – checked items should be included in case file and, where checked and requested, appropriately reference sources below)

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
- ☐ Data sheets prepared by the Corps.
- ☐ Corps navigable waters' study.
- ☒ U.S. Geological Survey Hydrologic Atlas:
  - ☒ USGS NHD data.
  - ☒ USGS HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: **1:24K; CA-MINERAL**
- ☐ USDA Natural Resources Conservation Service Soil Survey.
- ☒ National wetlands inventory map(s).
- ☐ State/Local wetland inventory map(s).
- ☐ FEMA/FIRM maps.
- ☐ 100-year Floodplain Elevation (if known):
- ☒ Photographs: ☒ Aerial ☒ Other
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and Date of Regulatory Project Manager (REQUIRED)

Signature and Date of Person Requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

Nationwide Permit Summary

U S Army Corps of Engineers
Sacramento District

33 CFR Part 330; Issuance of Nationwide Permits – March 19, 2012

14. Linear Transportation Projects. Activities required for the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10-acre; or (2) there is a discharge in a special aquatic site, including wetlands. (See general condition 31.) (Sections 10 and 404)

Note: Some discharges for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4).

A. **Regional Conditions**

1. **Regional Conditions for California, excluding the Tahoe Basin**

http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/nwp/2012-nwps/2012-NWP-RC-CA.pdf

2. **Regional Conditions for Nevada, including the Tahoe Basin**

hsttp://www.spk.usace.army.mil/organizations/cespk-co/regulatory/nwp/2012-nwps/2012-NWP-RC-NV.pdf

3. **Regional Conditions for Utah**

http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/nwp/2012-nwps/2012-NWP-RC-UT.pdf

4. **Regional Conditions for Colorado.**

http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/nwp/2012-nwps/2012-NWP-RC-CO.pdf

B. **Nationwide Permit General Conditions**

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR §§ 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR § 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

☐ 1. **Navigation.**

☐ (a) No activity may cause more than a minimal adverse effect on navigation.

☐ (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

☐ (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters,

the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

☐ 2. **Aquatic Life Movements.** No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species.

☐ 3. **Spawning Areas**. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

☐ 4. **Migratory Bird Breeding Areas.** Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

☐ 5. **Shellfish Beds**. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

☐ 6. **Suitable Material**. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

☐ 7. **Water Supply Intakes**. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

☐ 8. **Adverse Effects From Impoundments**. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

☐ 9. **Management of Water Flows**. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

☐ 10. **Fills Within 100-Year Floodplains**. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

☐ 11. **Equipment**. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

☐ 12. **Soil Erosion and Sediment Controls**. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

☐ 13. **Removal of Temporary Fills**. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

☐ 14. **Proper Maintenance**. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

☐ 15. **Single and Complete Project**. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

☐ 16. **Wild and Scenic Rivers**. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

☐ 17. **Tribal Rights**. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

☐ 18. **Endangered Species**.

☐ (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

☐ (b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to

demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address ESA compliance for the NWP activity, or whether additional ESA consultation is necessary.

☐ (c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed work or that utilize the designated critical habitat that might be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

☐ (d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

☐ (e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, The Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

☐ (f) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide web pages at http://www.fws.gov/ or http://www.fws.gov/ipac and http://www.noaa.gov/fisheries.html respectively.

☐ 19. **Migratory Birds and Bald and Golden Eagles**. The permittee is responsible for obtaining any "take" permits required under the U.S. Fish and Wildlife Service's regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the U.S. Fish and Wildlife Service to determine if such "take" permits are required for a particular activity.

☐ 20. **Historic Properties**.

☐ (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

☐ (b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address section 106 compliance for the NWP activity, or whether additional section 106 consultation is necessary.

☐ (c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified

historic properties on which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

☐ (d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non- Federal applicant that he or she cannot begin work until Section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

☐ (e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

☐ 21. **Discovery of Previously Unknown Remains and Artifacts**. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

☐ **22. Designated Critical Resource Waters**. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

☐ (a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

☐ (b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 31, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

☐ **23. Mitigation**. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

☐ (a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

☐ (b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

☐ (c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse effects of the proposed activity are minimal, and provides a project-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

☐ (1)The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in minimal adverse effects on the aquatic environment.

☐ (2)Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

☐ (3) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) – (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

☐ (4) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

☐ (5) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan.

☐ (d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream rehabilitation, enhancement, or preservation, to ensure that the activity results in minimal adverse effects on the aquatic environment.

☐ (e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

☐ (f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the restoration or establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to establish a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or establishing a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

☐ (g) Permittees may propose the use of mitigation banks, in-lieu fee programs, or separate permittee-responsible mitigation. For activities resulting in the loss of marine or estuarine resources, permittee-responsible compensatory mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

☐ **24. Safety of Impoundment Structures**. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

☐ **25. Water Quality**. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

☐ **26. Coastal Zone Management**. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

☐ **27. Regional and Case-By-Case Conditions**. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

☐ **28. Use of Multiple Nationwide Permits.** The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

☐ **29. Transfer of Nationwide Permit Verifications.** If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

(Transferee)

(Date)

☐ **30. Compliance Certification.** Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and any required compensatory mitigation. The success of any required permittee responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

☐ (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

☐ (b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

☐ (c) The signature of the permittee certifying the completion of the work and mitigation.

☐ **31. Pre-Construction Notification.**

☐ (a) **Timing**. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

☐ (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

☐ (2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 20 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2)..

☐ (b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

☐ (1) Name, address and telephone numbers of the prospective permittee;

☐ (2) Location of the proposed project;

☐ (3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause, including the anticipated amount of loss of water of the United States expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

☐ (4) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

☐ (5) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse effects are minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

☐ (6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

☐ (7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

☐ (c) Form of Pre-Construction Notification: he standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

☐ (d) Agency Coordination:

☐ (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

☐ (2) For all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States, for NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of intermittent and ephemeral stream bed, and for all NWP 48 activities that require pre-construction notification, the district engineer will immediately provide (e.g., via email, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where

there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

☐ (3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

☐ (4) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

C. District Engineer's Decision

☐ 1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. For a linear project, this determination will include an evaluation of the individual crossings to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings authorized by NWP. If an applicant requests a waiver of the 300 linear foot limit on impacts to intermittent or ephemeral streams or of an otherwise applicable limit, as provided for in NWPs 13, 21, 29, 36, 39, 40, 42, 43, 44, 50, 51 or 52, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in minimal adverse effects. When making minimal effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

☐ 2. If the proposed activity requires a PCN and will result in a loss of greater than 1/10- acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

☐ 3. If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (a) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (c) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period, with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation or a requirement that the applicant submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

D. **Further Information**

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.

2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.

3. NWPs do not grant any property rights or exclusive privileges.

4. NWPs do not authorize any injury to the property or rights of others.

5. NWPs do not authorize interference with any existing or proposed Federal project.

E. **Definitions**

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved. Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Direct effects: Effects that are caused by the activity and occur at the same time and place.

Discharge: The term "discharge" means any discharge of dredged or fill material.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Ephemeral stream: An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

High Tide Line: The line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete non-linear project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance, but are still reasonably foreseeable.

Intermittent stream: An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. The loss of stream bed includes the linear feet of stream bed that is filled or excavated. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities eligible for exemptions under Section 404(f) of the Clean Water Act are not considered when calculating the loss of waters of the United States.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. The definition of a wetland can be found at 33 CFR 328.3(b). Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of standing or flowing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of "open waters" include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas (see 33 CFR 328.3(e)).

Perennial stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands adjacent to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term "single and complete project" is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Single and complete non-linear project: For non-linear projects, the term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of "independent utility"). Single and complete non-linear projects may not be "piecemealed" to avoid the limits in an NWP authorization.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States. Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a wetland (i.e., water of the United States) that is inundated by tidal waters. The definitions of a wetland and tidal waters can be found at 33 CFR 328.3(b) and 33 CFR 328.3(f), respectively. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line, which is defined at 33 CFR 328.3(d).

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a jurisdictional water of the United States. If a jurisdictional wetland is adjacent – meaning bordering, contiguous, or neighboring – to a waterbody determined to be a water of the United States under 33 CFR 328.3(a)(1)-(6), that waterbody and its adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of "waterbodies" include streams, rivers, lakes, ponds, and wetlands.

Sacramento District Nationwide Permit Regional Conditions for California, excluding the Lake Tahoe Basin

1.* When pre-construction notification (PCN) is required, the permittee shall notify the U.S. Army Corps of Engineers, Sacramento District (Corps) in accordance with General Condition 31 using either the South Pacific Division Preconstruction Notification (PCN) Checklist or a signed application form (ENG Form 4345) with an attachment providing information on compliance with all of the General and Regional Conditions. In addition, the PCN shall include:

a. A written statement describing how the activity has been designed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States;

b. Drawings, including plan and cross-section views, clearly depicting the location, size and dimensions of the proposed activity, as well as the location of delineated waters of the U.S. on the site. The drawings shall contain a title block, legend and scale, amount (in cubic yards) and area (in acres) of fill in Corps jurisdiction, including both permanent and temporary fills/structures. The ordinary high water mark or, if tidal waters, the mean high water mark and high tide line, should be shown (in feet), based on National Geodetic Vertical Datum (NGVD) or other appropriate referenced elevation. All drawings for activities located within the boundaries of the Los Angeles District shall comply with the September 15, 2010 Special Public Notice: *Map and Drawing Standards for the Los Angeles District Regulatory Division*, (available on the Los Angeles District Regulatory Division website at: www.spl.usace.army.mil/regulatory/); and

c. Numbered and dated pre-project color photographs showing a representative sample of waters proposed to be impacted on the site, and all waters of the U.S. proposed to be avoided on and immediately adjacent to the activities site. The compass angle and position of each photograph shall be identified on the plan-view drawing(s) required in subpart b of this Regional Condition.

2. For all Nationwide Permits (NWPs), the permittee shall submit a PCN in accordance with General Condition 31 and Regional Condition 1, in the following circumstances:

a. For all activities that would result in the discharge of fill material into any vernal pool;

b. For any activity in the Primary and Secondary Zones of the Legal Delta, the Sacramento River, the San Joaquin River, and the immediate tributaries of these waters;

c. For all crossings of perennial waters and intermittent waters;

d. For all activities proposed within 100 feet of the point of discharge of a known natural spring source, which is any location where ground water emanates from a point in the ground excluding seeps or other discharges which lack a defined channel; and

e.* For all activities located in areas designated as Essential Fish Habitat (EFH) by the Pacific Fishery Management Council (i.e., all tidally influenced areas - Federal Register dated March 12, 2007 (72 FR 11092)), in which case the PCN shall include an EFH assessment and extent of proposed impacts to EFH. Examples of EFH habitat assessments can be found at: http://www.swr.noaa.gov/efh.htm.

3. The permittee shall record the NWP verification with the Registrar of Deeds or other appropriate official charged with the responsibility for maintaining records of title to or interest in real property for areas (1) designated to be preserved as part of compensatory mitigation for authorized impacts, including any associated covenants or restrictions, or (2) where boat ramps or docks, marinas, piers, and permanently moored vessels will be constructed or placed in or adjacent to navigable waters. The recordation shall also include a map showing the surveyed location of the preserved area or authorized structure.

4. For all waters of the U.S. proposed to be avoided on a site, unless determined to be impracticable by the Corps, the permittee shall:

a. Establish and maintain, in perpetuity, a preserve containing all avoided waters of the U.S. to ensure that the functions of the aquatic environment are protected;

b. Place all avoided waters of the U.S. and any upland buffers into a separate parcel prior to discharging dredge or fill material into waters of the U.S., and

c. Establish permanent legal protection for all preserve parcels, following Corps approval of the legal instrument;

If the Corps determines that it is impracticable to require permanent preservation of the avoided waters, additional mitigation may be required in order to compensate for indirect impacts to the waters of the U.S.

5. For all temporary fills, the PCN shall include a description of the proposed temporary fill, including the type and amount of material to be placed, the area proposed to be impacted, and the proposed plan for restoration of the temporary fill area to pre-activities contours and conditions, including a plan for the re-vegetation of the temporary fill area, if necessary. In addition, the PCN shall include the reason(s) why avoidance of temporary impacts is not practicable.

In addition, for all activities resulting in temporary fill within waters of the U.S., the permittee shall:

a. Utilize material consisting of clean and washed gravel. For temporary fills within waters of the U.S. supporting anadromous fisheries, spawning quality gravel shall be used, where practicable, as determined by the Corps, after consultation with appropriate Federal and state fish and wildlife agencies;

b. Place a horizontal marker (e.g. fabric, certified weed free straw, etc.) to delineate the existing ground elevation of the waters temporarily filled during construction; and

c. Remove all temporary fill within 30 days following completion of construction activities.

6. In addition to the requirements of General Condition 2, unless determined to be impracticable by the Corps, the following criteria shall apply to all road crossings:

a.* For all activities in waters of the U.S. that are suitable habitat for Federally-listed fish species, the permittee shall design all road crossings to ensure that the passage and/or spawning of fish is not hindered. In these areas, the permittee shall employ bridge designs that span the stream or river, including pier- or pile-supported spans, or designs that use a bottomless arch culvert with a natural stream bed;

b. Road crossings shall be designed to ensure that no more than minor impacts would occur to fish and wildlife passage or expected high flows, following the criteria listed in Regional Condition 6(a). Culverted crossings that do not utilize a bottomless arch culvert with a natural stream bed may be authorized for waters that do not contain suitable habitat for Federally listed fish species, if it can be demonstrated and is specifically determined by the Corps, that such crossing will result in no more than minor impacts to fish and wildlife passage or expected high flows;

c. No construction activities shall occur within standing or flowing waters. For ephemeral or intermittent streams, this may be accomplished through construction during the dry season. In perennial

* Regional Condition developed jointly between Sacramento District, Los Angeles District, and San Francisco District.

streams, this may be accomplished through dewatering of the work area. Any proposed dewatering plans must be approved, in writing, by the Corps prior to commencement of construction activities; and

d. All bank stabilization activities associated with a road crossing shall comply with Regional Condition 19.

In no case shall stream crossings result in a reduction in the pre-construction bankfull width or depth of perennial streams or negatively alter the flood control capacity of perennial streams.

7.* For activities in which the Corps designates another Federal agency as the lead for compliance with Section 7 of the Endangered Species Act (ESA) of 1973 as amended, pursuant to 50 CFR Part 402.07, Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act (EFH), pursuant to 50 CFR 600.920(b) and/or Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, pursuant to 36 CFR 800.2(a)(2), the lead Federal agency shall provide all relevant documentation to the Corps demonstrating any previous consultation efforts, as it pertains to the Corps Regulatory permit area (for Section 7 and EFH compliance) and the Corps Regulatory area of potential effect (APE) (for Section 106 compliance). For activities requiring a PCN, this information shall be submitted with the PCN. If the Corps does not designate another Federal agency as the lead for ESA, EFH and/or NHPA, the Corps will initiate consultation for compliance, as appropriate.

8. For all NWPs which require a PCN, the permittee shall submit the following additional information with the compliance certificate required under General Condition 30:

a. As-built drawings of the work conducted on the project site and any on-site and/or off-site compensatory mitigation, preservation, and/or avoidance area(s). The as-builts shall include a plan-view drawing of the location of the authorized work footprint (as shown on the permit drawings), with an overlay of the work as constructed in the same scale as the permit drawings. The drawing shall show all areas of ground disturbance, wetland impacts, structures, and the boundaries of any on-site and/or off-site mitigation or avoidance areas. Please note that any deviations from the work as authorized, which result in additional impacts to waters of the U.S., must be coordinated with the appropriate Corps office prior to impacts; and

b. Numbered and dated post-construction color photographs of the work conducted within a representative sample of the impacted waters of the U.S., and within all avoided waters of the U.S. on and immediately adjacent to the proposed activities area. The compass angle and position of all photographs shall be similar to the pre-construction color photographs required in Regional Condition 1(c) and shall be identified on the plan-view drawing(s) required in subpart a of this Regional Condition.

9. For all activities requiring permittee responsible mitigation, the permittee shall develop and submit to the Corps for review and approval, a final comprehensive mitigation and monitoring plan for all permittee responsible mitigation prior to commencement of construction activities within waters of the U.S. The plan shall include the mitigation location and design drawings, vegetation plans, including target species to be planted, and final success criteria, presented in the format of the *Sacramento District's Habitat Mitigation and Monitoring Proposal Guidelines*, dated December 30, 2004, and in compliance with the requirements of 33 CFR 332.

10.* The permittee shall complete the construction of any compensatory mitigation required by special condition(s) of the NWP verification before or concurrent with commencement of construction of the authorized activity, except when specifically determined to be impracticable by the Corps. When mitigation involves use of a mitigation bank or in-lieu fee program, the permittee shall submit proof of payment to the Corps prior to commencement of construction of the authorized activity.

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11. The permittee is responsible for all authorized work and ensuring that all contractors and workers are made aware and adhere to the terms and conditions of the permit authorization. The permittee shall ensure that a copy of the permit authorization and associated drawings are available and visible for quick reference at the site until all construction activities are completed.

12. The permittee shall clearly identify the limits of disturbance in the field with highly visible markers (e.g. construction fencing, flagging, silt barriers, etc.) prior to commencement of construction activities within waters of the U.S. The permittee shall maintain such identification properly until construction is completed and the soils have been stabilized. The permittee is prohibited from any activity (e.g. equipment usage or materials storage) that impacts waters of the U.S. outside of the permit limits (as shown on the permit drawings).

13. For all activities in which a PCN is required, the permittee shall notify the appropriate district office of the start date for the authorized work within 10 days prior to initiation of construction activities.

14. The permittee shall allow Corps representatives to inspect the authorized activity and any mitigation areas at any time deemed necessary to determine compliance with the terms and conditions of the NWP verification. The permittee will be notified in advance of an inspection.

15. For all activities located in the Mather Core Recovery Area in Sacramento County, as identified in the U.S. Fish and Wildlife Service's *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* dated December 15, 2005, NWPs 14, 18, 23, 29, 39, 40, 42, 43 and 44 are revoked from use in vernal pools that may contain habitat for Federally-listed threatened and/or endangered vernal pool species.

16. For activities located in the Primary or Secondary Zone of the Legal Delta, NWPs 29 and 39 are revoked.

17. For all activities within the Secondary Zone of the Legal Delta, the permittee shall conduct compensatory mitigation for unavoidable impacts within the Secondary Zone of the Legal Delta.

18. For NWP 12: Permittees shall ensure the construction of utility lines does not result in the draining of any water of the U.S., including wetlands. This may be accomplished through the use of clay blocks, bentonite, or other suitable material (as approved by the Corps) to seal the trench. For utility line trenches, during construction, the permittee shall remove and stockpile, separately, the top 6 – 12 inches of topsoil. Following installation of the utility line(s), the permittee shall replace the stockpiled topsoil on top and seed the area with native vegetation. The permittee shall submit a PCN for utility line activities in the following circumstances:

a. The utility line crossing would result in a discharge of dredged and/or fill material into perennial waters, intermittent waters, wetlands, mudflats, vegetated shallows, riffle and pool complexes, sanctuaries and refuges or coral reefs;

b. The utility line activity would result in a discharge of dredged and/or fill material into greater than 100 linear feet of ephemeral waters of the U.S.;

c. The utility line installation would include the construction of a temporary or permanent access road, substation or foundation within waters of the U.S.; or

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d. The proposed activity would not involve the restoration of all utility line trenches to pre-project contours and conditions within 30 days following completion of construction activities.

19. For NWP 13 and 14: All bank stabilization activities shall involve either the sole use of native vegetation or other bioengineered design techniques (e.g. willow plantings, root wads, large woody debris, etc.), or a combination of hard-armoring (e.g. rip-rap) and native vegetation or bioengineered design techniques, unless specifically determined to be impracticable by the Corps. The permittee shall submit a PCN for any bank stabilization activity that involves hard-armoring or the placement of any non-vegetated or non-bioengineered technique below the ordinary high water mark or, if tidal waters, the high tide line of waters of the U.S. The request to utilize non-vegetated techniques must include information on why the sole use of vegetated techniques is not practicable.

20. For NWP 23: The permittee shall submit a PCN for all activities proposed for this NWP, in accordance with General Condition 31 and Regional Condition 1. The PCN shall include a copy of the signed Categorical Exclusion document and final agency determinations regarding compliance with ESA, EFH and NHPA, in accordance with General Conditions 18 and 20 and Regional Condition 7.

21. For NWP 27: The permittee shall submit a PCN for aquatic habitat restoration, establishment, and enhancement activities in the following circumstances:

a. The restoration, establishment or enhancement activity would result in a discharge of dredged and/or fill material into perennial waters, intermittent waters, wetlands, mudflats, vegetated shallows, riffle and pool complexes, sanctuaries and refuges or coral reefs; or

b. The restoration, establishment or enhancement activity would result in a discharge of dredged and/or fill material into greater than 100 linear feet of ephemeral waters of the U.S.

22. For NWPs 29 and 39: The channelization or relocation of intermittent or perennial drainages is not authorized, except when, as determined by the Corps, the relocation would result in a net increase in functions of the aquatic ecosystem within the watershed.

23.* Any requests to waive the 300 linear foot limitation for intermittent and ephemeral streams for NWPs 21, 29, 39, 40, 42, 43, 44, 50, 51 and 52, or to waive the 500 linear foot limitation along the bank for NWP 13, must include the following:

a. A narrative description of the stream. This should include known information on: volume and duration of flow; the approximate length, width, and depth of the waterbody and characteristics observed associated with an Ordinary High Water Mark (e.g. bed and bank, wrack line or scour marks); a description of the adjacent vegetation community and a statement regarding the wetland status of the adjacent areas (i.e. wetland, non-wetland); surrounding land use; water quality; issues related to cumulative impacts in the watershed, and; any other relevant information;

b. An analysis of the proposed impacts to the waterbody, in accordance with General Condition 31 and Regional Condition 1;

c. Measures taken to avoid and minimize losses to waters of the U.S., including other methods of constructing the proposed activity(s); and

d. A compensatory mitigation plan describing how the unavoidable losses are proposed to be offset, in accordance with 33 CFR 332.

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24. For NWPs 29, 39, 40, 42, and 43: The permittee shall establish and maintain upland vegetated buffers in perpetuity, unless specifically determined to be impracticable by the Corps, next to all preserved open waters, streams and wetlands including created, restored, enhanced or preserved waters of the U.S., consistent with General Condition 23(f). Except in unusual circumstances, as determined by the Corps, vegetated buffers shall be at least 50 feet in width.

25. For NWP 46: The discharge shall not cause the loss of greater than 0.5 acres of waters of the United States or the loss of more than 300 linear feet of ditch, unless specifically waived in writing by the Corps.

26. All NWPs except 3, 6, 20, 27, 32, and 38 are revoked for activities in histosols, fens, bogs and peatlands and in wetlands contiguous with fens. Fens are defined as slope wetlands with a histic epipedon that are hydrologically supported by groundwater. Fens are normally saturated throughout the growing season, although they may not be during drought conditions. For NWPs 3, 6, 20, 27, 32, and 38, the permittee shall submit a PCN to the Corps in accordance with General Condition 31 and Regional Condition 1. This condition does not apply to NWPs 1, 2, 8, 9, 10, 11, 24, 28, 35 or 36, as these NWPs either apply to Section 10 only activities or do not authorize impacts to special aquatic sites.

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Nationwide Permit Summary

33 CFR Part 330; Issuance of Nationwide Permits – March 19, 2012

27. Aquatic Habitat Restoration, Establishment, and Enhancement Activities. Activities in waters of the United States associated with the restoration, enhancement, and establishment of tidal and non-tidal wetlands and riparian areas, the restoration and enhancement of non-tidal streams and other non-tidal open waters, and the rehabilitation or enhancement of tidal streams, tidal wetlands, and tidal open waters, provided those activities result in net increases in aquatic resource functions and services.

To the extent that a Corps permit is required, activities authorized by this NWP include, but are not limited to: the removal of accumulated sediments; the installation, removal, and maintenance of small water control structures, dikes, and berms, as well as discharges of dredged or fill material to restore appropriate stream channel configurations after small water control structures, dikes, and berms, are removed; the installation of current deflectors; the enhancement, restoration, or establishment of riffle and pool stream structure; the placement of in-stream habitat structures; modifications of the stream bed and/or banks to restore or establish stream meanders; the backfilling of artificial channels; the removal of existing drainage structures, such as drain tiles, and the filling, blocking, or reshaping of drainage ditches to restore wetland hydrology; the installation of structures or fills necessary to establish or re-establish wetland or stream hydrology; the construction of small nesting islands; the construction of open water areas; the construction of oyster habitat over unvegetated bottom in tidal waters; shellfish seeding; activities needed to reestablish vegetation, including plowing or discing for seed bed preparation and the planting of appropriate wetland species; re-establishment of submerged aquatic vegetation in areas where those plant communities previously existed; re-establishment of tidal wetlands in tidal waters where those wetlands previously existed; mechanized land clearing to remove non-native invasive, exotic, or nuisance vegetation; and other related activities. Only native plant species should be planted at the site.

This NWP authorizes the relocation of non-tidal waters, including non-tidal wetlands and streams, on the project site provided there are net increases in aquatic resource functions and services.

Except for the relocation of non-tidal waters on the project site, this NWP does not authorize the conversion of a stream or natural wetlands to another aquatic habitat type (e.g., stream to wetland or vice versa) or uplands. Changes in wetland plant communities that occur when wetland hydrology is more fully restored during wetland rehabilitation activities are not considered a conversion to another aquatic habitat type. This NWP does not authorize stream channelization. This NWP does not authorize the relocation of tidal waters or the conversion of tidal waters, including tidal wetlands, to other aquatic uses, such as the conversion of tidal wetlands into open water impoundments.

Compensatory mitigation is not required for activities authorized by this NWP since these activities must result in net increases in aquatic resource functions and services.

Reversion. For enhancement, restoration, and establishment activities conducted:

(1) In accordance with the terms and conditions of a binding stream or wetland enhancement or restoration agreement, or a wetland establishment agreement, between the landowner and the U.S. Fish and Wildlife Service (FWS), the Natural Resources Conservation Service (NRCS), the Farm Service Agency (FSA), the National Marine Fisheries Service (NMFS), the National Ocean Service (NOS), U.S. Forest Service (USFS), or their designated state cooperating agencies;

(2) as voluntary wetland restoration, enhancement, and establishment actions documented by the NRCS or USDA Technical Service Provider pursuant to NRCS Field Office Technical Guide standards; or

(3) on reclaimed surface coal mine lands, in accordance with a Surface Mining Control and Reclamation Act permit issued by the Office of Surface Mining Reclamation and Enforcement (OSMRE) or the applicable state agency, this NWP also authorizes any future discharge of dredged or fill material associated with the reversion of the area to its documented prior condition and use (i.e., prior to the restoration, enhancement, or establishment activities).

The reversion must occur within five years after expiration of a limited term wetland restoration or establishment agreement or permit, and is authorized in these circumstances even if the discharge occurs after this NWP expires. The five-year reversion limit does not apply to agreements without time limits reached between the landowner and the FWS, NRCS, FSA, NMFS, NOS, USFS, or an appropriate state cooperating agency. This NWP also authorizes discharges of dredged or fill material in waters of the United States for the reversion of wetlands that were restored, enhanced, or established on prior-converted cropland or on uplands, in accordance with a binding agreement between the landowner and NRCS, FSA, FWS, or their designated state cooperating agencies (even though the restoration, enhancement, or establishment activity did not require a section 404 permit). The prior condition will be documented in the original agreement or permit, and the

determination of return to prior conditions will be made by the Federal agency or appropriate state agency executing the agreement or permit. Before conducting any reversion activity the permittee or the appropriate Federal or state agency must notify the district engineer and include the documentation of the prior condition. Once an area has reverted to its prior physical condition, it will be subject to whatever the Corps Regulatory requirements are applicable to that type of land at the time. The requirement that the activity results in a net increase in aquatic resource functions and services does not apply to reversion activities meeting the above conditions. Except for the activities described above, this NWP does not authorize any future discharge of dredged or fill material associated with the reversion of the area to its prior condition. In such cases a separate permit would be required for any reversion.

Reporting. For those activities that do not require pre-construction notification, the permittee must submit to the district engineer a copy of:

(1) The binding stream enhancement or restoration agreement or wetland enhancement, restoration, or establishment agreement, or a project description, including project plans and location map;

(2) the NRCS or USDA Technical Service Provider documentation for the voluntary stream enhancement or restoration action or wetland restoration, enhancement, or establishment action; or

(3) the SMCRA permit issued by OSMRE or the applicable state agency. The report must also include information on baseline ecological conditions on the project site, such as a delineation of wetlands, streams, and/or other aquatic habitats.

These documents must be submitted to the district engineer at least 30 days prior to commencing activities in waters of the United States authorized by this NWP.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing any activity (see general condition 31), except for the following activities:

(1) Activities conducted on non-Federal public lands and private lands, in accordance with the terms and conditions of a binding stream enhancement or restoration agreement or wetland enhancement, restoration, or establishment agreement between the landowner and the U.S. FWS, NRCS, FSA, NMFS, NOS, USFS or their designated state cooperating agencies;

(2) Voluntary stream or wetland restoration or enhancement action, or wetland establishment action, documented by the NRCS or USDA Technical Service Provider pursuant to NRCS Field Office Technical Guide standards; or

(3) The reclamation of surface coal mine lands, in accordance with an SMCRA permit issued by the OSMRE or the applicable state agency. However, the permittee must submit a copy of the appropriate documentation to the district engineer to fulfill the reporting requirement. (Sections 10 and 404)

Note: This NWP can be used to authorize compensatory mitigation projects, including mitigation banks and in-lieu fee projects. However, this NWP does not authorize the reversion of an area used for a compensatory mitigation project to its prior condition, since compensatory mitigation is generally intended to be permanent.

A. **Regional Conditions**

1. **Regional Conditions for California, excluding the Tahoe Basin**

http://www.spk.usace.army.mil/Portals/12/documents/regulatory/nwp/2012_nwps/2012-NWP-RC-CA.pdf

2. **Regional Conditions for Nevada, including the Tahoe Basin**

http://www.spk.usace.army.mil/Portals/12/documents/regulatory/nwp/2012_nwps/2012-NWP-RC-NV.pdf

3. **Regional Conditions for Utah**

http://www.spk.usace.army.mil/Portals/12/documents/regulatory/nwp/2012_nwps/2012-NWP-RC-UT.pdf

4. **Regional Conditions for Colorado.**

http://www.spk.usace.army.mil/Portals/12/documents/regulatory/nwp/2012_nwps//2012-NWP-RC-CO.pdf

B. **Nationwide Permit General Conditions**

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR §§ 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR § 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

☐ 1. **Navigation.**

☐ (a) No activity may cause more than a minimal adverse effect on navigation.

☐ (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

☐ (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable

obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

☐ 2. **Aquatic Life Movements.** No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species.

☐ 3. **Spawning Areas**. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

☐ 4. **Migratory Bird Breeding Areas.** Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

☐ 5. **Shellfish Beds**. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

☐ 6. **Suitable Material**. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

☐ 7. **Water Supply Intakes**. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

☐ 8. **Adverse Effects From Impoundments**. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

☐ 9. **Management of Water Flows**. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

☐ 10. **Fills Within 100-Year Floodplains**. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

☐ 11. **Equipment**. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

☐ 12. **Soil Erosion and Sediment Controls**. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

☐ 13. **Removal of Temporary Fills**. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

☐ 14. **Proper Maintenance**. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

☐ 15. **Single and Complete Project**. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

☐ 16. **Wild and Scenic Rivers**. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

☐ 17. **Tribal Rights**. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

☐ 18. **Endangered Species**.

☐ (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

☐ (b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to

demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address ESA compliance for the NWP activity, or whether additional ESA consultation is necessary.

☐ (c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed work or that utilize the designated critical habitat that might be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

☐ (d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

☐ (e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, The Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

☐ (f) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide web pages at http://www.fws.gov/ or http://www.fws.gov/ipac and http://www.noaa.gov/fisheries.html respectively.

☐ 19. **Migratory Birds and Bald and Golden Eagles**. The permittee is responsible for obtaining any "take" permits required under the U.S. Fish and Wildlife Service's regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the U.S. Fish and Wildlife Service to determine if such "take" permits are required for a particular activity.

☐ 20. **Historic Properties**.

☐ (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

☐ (b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address section 106 compliance for the NWP activity, or whether additional section 106 consultation is necessary.

☐ (c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties on which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has

no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

☐ (d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non- Federal applicant that he or she cannot begin work until Section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

☐ (e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

☐ 21. **Discovery of Previously Unknown Remains and Artifacts**. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

☐ **22. Designated Critical Resource Waters**. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

☐ (a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

☐ (b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 31, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

☐ **23. Mitigation**. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

☐ (a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

☐ (b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

☐ (c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse effects of the proposed activity are minimal, and provides a project-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

☐ (1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in minimal adverse effects on the aquatic environment.

☐ (2) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

☐ (3) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan

that addresses the applicable requirements of 33 CFR 332.4(c)(2) – (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

☐ (4) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

☐ (5) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan.

☐ (d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream rehabilitation, enhancement, or preservation, to ensure that the activity results in minimal adverse effects on the aquatic environment.

☐ (e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

☐ (f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the restoration or establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to establish a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or establishing a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

☐ (g) Permittees may propose the use of mitigation banks, in-lieu fee programs, or separate permittee-responsible mitigation. For activities resulting in the loss of marine or estuarine resources, permittee-responsible compensatory mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

☐ **24. Safety of Impoundment Structures**. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

☐ **25. Water Quality**. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

☐ **26. Coastal Zone Management**. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

☐ **27. Regional and Case-By-Case Conditions**. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

☐ **28. Use of Multiple Nationwide Permits**. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

☐ **29. Transfer of Nationwide Permit Verifications**. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

(Transferee)

(Date)

☐ **30. Compliance Certification**. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and any required compensatory mitigation. The success of any required permittee responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

☐ (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

☐ (b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

☐ (c) The signature of the permittee certifying the completion of the work and mitigation.

☐ **31. Pre-Construction Notification**.

☐ (a) **Timing**. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

☐ (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

☐ (2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 20 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2)..

☐ (b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

☐ (1) Name, address and telephone numbers of the prospective permittee;

☐ (2) Location of the proposed project;

☐ (3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause, including the anticipated amount of loss of water of the United States expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

☐ (4) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

☐ (5) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse effects are minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

☐ (6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

☐ (7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

☐ (c) Form of Pre-Construction Notification: he standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

☐ (d) Agency Coordination:

☐ (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

☐ (2) For all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States, for NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of intermittent and ephemeral stream bed, and for all NWP 48 activities that require pre-construction notification, the district engineer will immediately provide (e.g., via email, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where

there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

☐ (3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

☐ (4) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

C. District Engineer's Decision

☐ 1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. For a linear project, this determination will include an evaluation of the individual crossings to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings authorized by NWP. If an applicant requests a waiver of the 300 linear foot limit on impacts to intermittent or ephemeral streams or of an otherwise applicable limit, as provided for in NWPs 13, 21, 29, 36, 39, 40, 42, 43, 44, 50, 51 or 52, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in minimal adverse effects. When making minimal effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

☐ 2. If the proposed activity requires a PCN and will result in a loss of greater than 1/10- acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

☐ 3. If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (a) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (c) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period, with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation or a requirement that the applicant submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

D. Further Information

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.

2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.

3. NWPs do not grant any property rights or exclusive privileges.

4. NWPs do not authorize any injury to the property or rights of others.

5. NWPs do not authorize interference with any existing or proposed Federal project.

E. **Definitions**

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Direct effects: Effects that are caused by the activity and occur at the same time and place.

Discharge: The term "discharge" means any discharge of dredged or fill material.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Ephemeral stream: An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

High Tide Line: The line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete non-linear project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance, but are still reasonably foreseeable.

Intermittent stream: An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. The loss of stream bed includes the linear feet of stream bed that is filled or excavated. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities eligible for exemptions under Section 404(f) of the Clean Water Act are not considered when calculating the loss of waters of the United States.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. The definition of a wetland can be found at 33 CFR 328.3(b). Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of standing or flowing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of "open waters" include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas (see 33 CFR 328.3(e)).

Perennial stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands adjacent to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term "single and complete project" is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Single and complete non-linear project: For non-linear projects, the term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of "independent utility"). Single and complete non-linear projects may not be "piecemealed" to avoid the limits in an NWP authorization.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a wetland (i.e., water of the United States) that is inundated by tidal waters. The definitions of a wetland and tidal waters can be found at 33 CFR 328.3(b) and 33 CFR 328.3(f), respectively. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line, which is defined at 33 CFR 328.3(d).

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a jurisdictional water of the United States. If a jurisdictional wetland is adjacent – meaning bordering, contiguous, or neighboring – to a waterbody determined to be a water of the United States under 33 CFR 328.3(a)(1)-(6), that waterbody and its adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of "waterbodies" include streams, rivers, lakes, ponds, and wetlands.

AGREEMENTS

NATIONAL MARINE FISHERIES SERVICES

NOTIFICATION NO.2009/06533

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

March 29, 2012

In response, refer to:
2009/06533

Edward Espinoza
Chief, Environmental Management Office
Department of Transportation
P.O. Box 496073
Redding, California 96049-6073

Dear Mr. Espinoza:

Enclosed is NOAA's National Marine Fisheries Service's (NMFS) biological opinion (BO) (Enclosure 1) for the proposed Mill Creek Bridge Scour Repair and Deck Rehabilitation project (Project) located in Tehama County, California, and its effects on federally listed threatened Central Valley (CV) spring-run Chinook salmon evolutionarily significant unit (*Oncorhynchus tshawytscha*) and threatened California CV steelhead distinct population segment (DPS) (*O. mykiss*) or any of their respective designated critical habitats, in accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Your request for reinitiation of formal section 7 consultation on this Project was received on May 23, 2011.

This BO is primarily based on the biological assessment (BA) provided on December 7, 2009. The BA incorporated recommendations and addressed NMFS comments as discussed in correspondence and emails. Based on the best available scientific and commercial information, the BO concludes that the Project, as presented by the California Department of Transportation, is not likely to jeopardize the continued existence of the listed species or destroy or adversely modify designated or proposed critical habitat. NMFS anticipates that the proposed project will result in the incidental take of spring-run Chinook salmon and California CV steelhead. An incidental take statement that includes non-discretionary terms and conditions that are intended to minimize the impacts of the anticipated incidental take of CV spring-run Chinook salmon and California CV steelhead is included with the BO.

Also enclosed are NMFS' Essential Fish Habitat (EFH) conservation recommendations for Pacific salmon (*O. tshawytscha*) as required by the Magnuson-Stevens Fishery Conservation and Management Act as amended (16 U.S.C. 1801 *et seq.*; Enclosure 2). The document concludes that the Project will adversely affect the EFH of Pacific salmon in the action area and adopts

certain terms and conditions of the incidental take statement and the ESA conservation recommendations of the BO as the EFH conservation recommendations.

Please contact Dylan Van Dyne at (916) 930-3725, or via e-mail at Dylan.VanDyne@noaa.gov, if you have any questions regarding this response or require additional information.

Sincerely,

Kevin Chu

for Rodney R. McInnis
Regional Administrator

Enclosures (2)

cc: NMFS-PRD, Long Beach, CA
Copy to Administrative File: 151422SWR2009SA00570

Enclosure 1

BIOLOGICAL OPINION

ACTION AGENCY: California Department of Transportation (Caltrans)

ACTION: Mill Creek Bridge Scour Repair and Deck Rehabilitation Project

CONSULTATION CONDUCTED BY: Southwest Region, National Marine Fisheries Service (NMFS)

FILE TRACKING NUMBER: 151422SWR200900570 (T/N: 2009/06533)

DATE ISSUED: **March 29, 2012**

I. CONSULTATION HISTORY

Caltrans has initiated consultation in accordance to Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 USC 1531 *et seq,*) with the National Oceanic Atmospheric Administration National Marine Fisheries Service (NMFS) to evaluate the effects of the proposed bridge rehabilitation project on the Mill Creek Bridge (Bridge Number 08-0133) on State Route 36 in Tehama County, California.

On May 28, 2009, a telephone conversation was held between Monica Gutierrez (NMFS biologist) and Sharon Stacey (Caltrans) regarding technical assistance and the proposed project description.

On December 7, 2009, NMFS received a letter from Caltrans requesting section 7 formal consultation under the Endangered Species Act (ESA).

On January 6, 2010, Caltrans incorporates minor changes to conservation measures 4 and 8.

On February 17, 2010, NMFS acknowledged receipt of Caltrans formal consultation request letter, Biological Assessment (BA) and Essential Fish Habitat Assessment (EFHA), and that all information necessary to initiate consultation was either included with the submittal or could otherwise be obtained during the formal consultation process for our consideration and reference.

On June 2, 2010, Caltrans informed NMFS via email that hydraulic staff would reassess the scour mitigation plan which would likely result in a design change and a delay in construction. In effect, that correspondence suspended the consultation process until further notice would be received from Caltrans.

Enclosed with Caltrans January 12, 2011, letter to NMFS were two hydraulics reports that comprised the updated project design analysis.

A field review of the project site was conducted on February 9, 2011, with the California Department of Fish and Game (DFG), Caltrans, and NMFS representatives.

On May 23, 2011, NMFS received a letter from Caltrans reinitiating section 7 formal consultation that included an Addendum to the December 2009 BA and EFHA.

On October 5, 2011, NMFS received email correspondence regarding an updated conservation measure proposal to be included in the Addendum BA and EFHA.

II. DESCRIPTION OF THE PROPOSED ACTION

A. Project Location

Caltrans proposes to correct scour and rehabilitate the bridge deck at the Mill Creek Bridge on State Route (SR) 36 in Tehama County, California, at Post Mile (PM) 91.46 (Figure 1). The Mill Creek Bridge is located approximately eight miles east of the town of Mineral in Township 30N, Range 12E, Section 23, of the USGS 7.5-minute quadrangle (USGS 1976) (Figure 2).

The existing Mill Creek Bridge deck is a two-span, reinforced concrete girder structure with reinforced concrete abutments and a reinforced concrete pier wall, all on spread footings. The existing bridge deck is reinforced Portland cement concrete (PCC) with an asphalt concrete (AC) surface measuring 70 feet (ft) long and 34 ft wide and exhibits signs of deterioration due to wear and weathering.

B. Construction Activities

The purpose of the proposed project is to correct existing scour, prevent future scour at the abutments and pier and to rehabilitate the bridge deck. Work will include placing approximately 624 cubic yards (cy) of two-ton rock slope protection (RSP) and 133 cy of small rock at the foundations of the bridge abutments and center pier wall and an additional 226 cy of a mixture of Backing #1 and Backing #3 in lieu of filter fabric. The rock will also be placed at or below grade and will not reduce the current cross-sectional area of the channel. In addition, project will include construction of an access road, excavation and construction of a stream diversion, placing bridges over the diversion to access both sides of the creek, replacing the AC bridge deck surface with a polyester overlay, and adjusting the existing guard rail. Work within the wetted portion of the stream will be restricted to the period between July 1 and August 31. The proposed project is scheduled for construction in 2013.

An overhead telephone line that runs adjacent to the south side of the highway will be relocated to provide clearance for construction equipment. It is anticipated that the utility company will elect to relocate the telephone line underground on its present alignment, with the exception of where it crosses Mill Creek. The telephone line will be attached to the downstream side of the bridge deck. This work is scheduled for 2012 or in the year prior to bridge construction work.

Equipment capable of excavating and handling large RSP, such as an excavator or backhoe, will require access to the bridge foundations from each side of the creek. Access will be on the east

side of the creek on the north and south sides of the highway. Temporary stream crossing structures will be installed upstream and downstream of the highway bridge to provide access to the west side of the creek. The installation of RSP at the bridge foundations will require a temporary diversion of the stream channel to dewater the work area.

C. Construction Schedule

Construction will occur in three stages:

Stage 1

Prior to the commencement of any construction activities, temporary environmentally sensitive area fencing will be installed to protect areas adjacent to the work zone from encroachment and inadvertent impacts. In-stream work will not begin until July 1, and will go until August 31. Preparatory work will occur in upland areas and dry portions of the stream channel and will include construction of the equipment access roads, the southern stream crossing structure, staging areas, and material storage areas near the southeast and northeast quadrants of the bridge. Any large woody debris within the banks of Mill Creek that could interfere with construction will be temporarily stockpiled on dry land. An access road from SR 36 will be created on the north and south sides of the highway. Both access roads will be created with imported fill and will extend approximately 250 ft to the eastern stream bank. If the east side of the stream channel is dry, a stream crossing structure will be constructed immediately south of the highway bridge over the proposed diversion channel. The temporary crossing will consist of a horizontal deck, comprised of two ten-ft spans, utilizing a temporary concrete barrier rail (K-rail) section or similar material for a center support. The abutments will be constructed of clean, imported gravel. K-rail will be installed parallel with the creek to contain the cobble abutments. In addition, RSP will be placed at the east abutment and the east side of the center pier wall. A toe trench will be excavated to the depth of the top of the footings and the RSP placed accordingly.

Stage 2

A temporary stream crossing structure will be installed approximately 100 feet upstream of the highway bridge in order to gain access to the west side of the creek and place RSP at the west abutment and the west side of the center pier. The temporary crossing will be similar to the one constructed downstream of the highway bridge. As the temporary crossing is being constructed, a diversion channel will be excavated, beginning at the downstream end and working towards the stream diversion point upstream. The diversion channel will extend approximately 150 ft downstream and 150 ft upstream of the highway bridge and be no deeper than the thalweg of the active channel. A natural channel in the gravel bar exists downstream of the highway bridge, therefore, no work will at that locations will be required to prepare the channel. The balance of the proposed diversion channel, from the highway bridge to the diversion point upstream will require excavation. The volume of excavation will be roughly 251 cy of cobble, gravel, and silt material, which will be disposed of at an appropriate upland disposal site. Concrete K-rail will

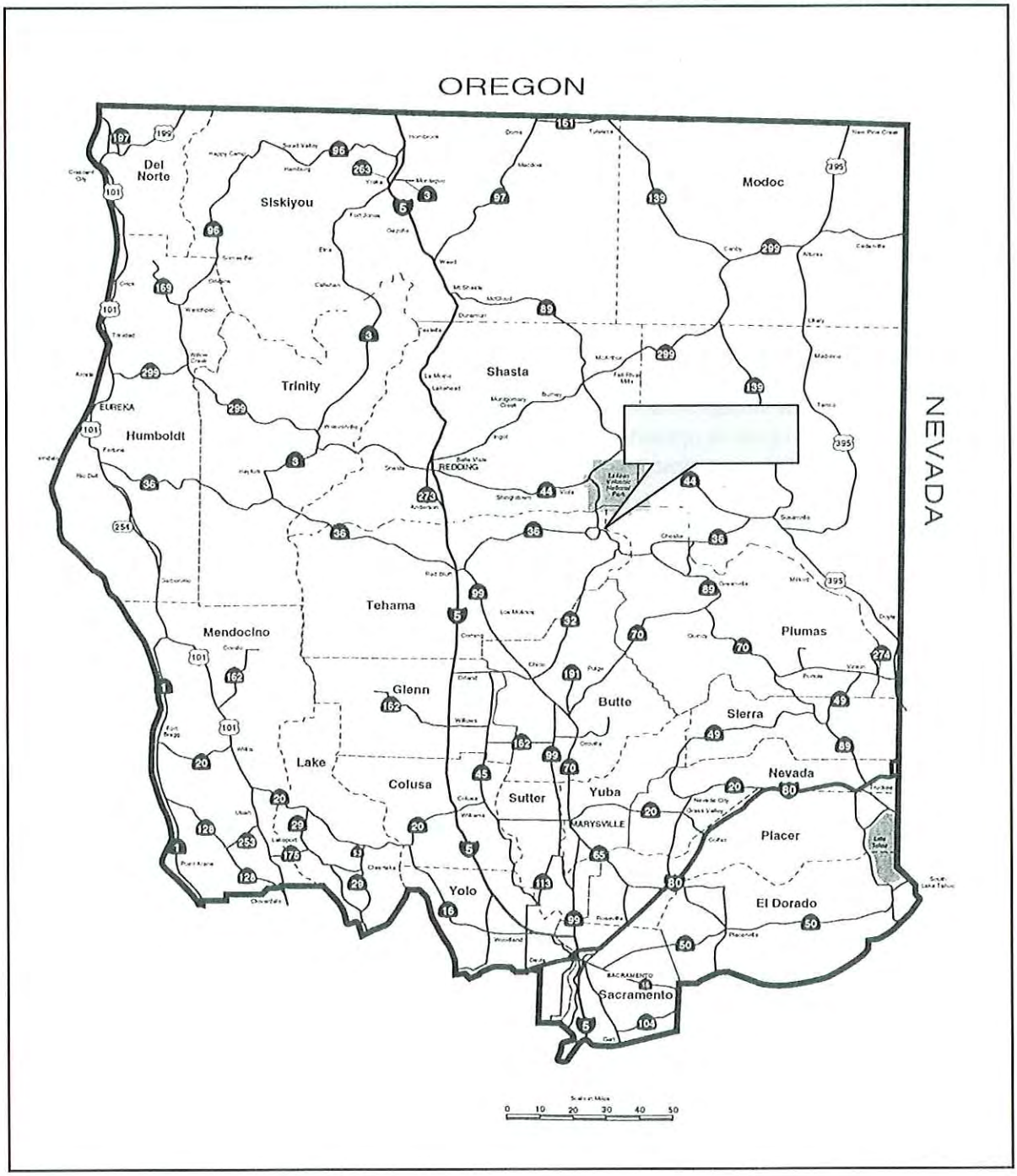

Figure 1. Project Vicinity Map. Box denotes proposed project location.

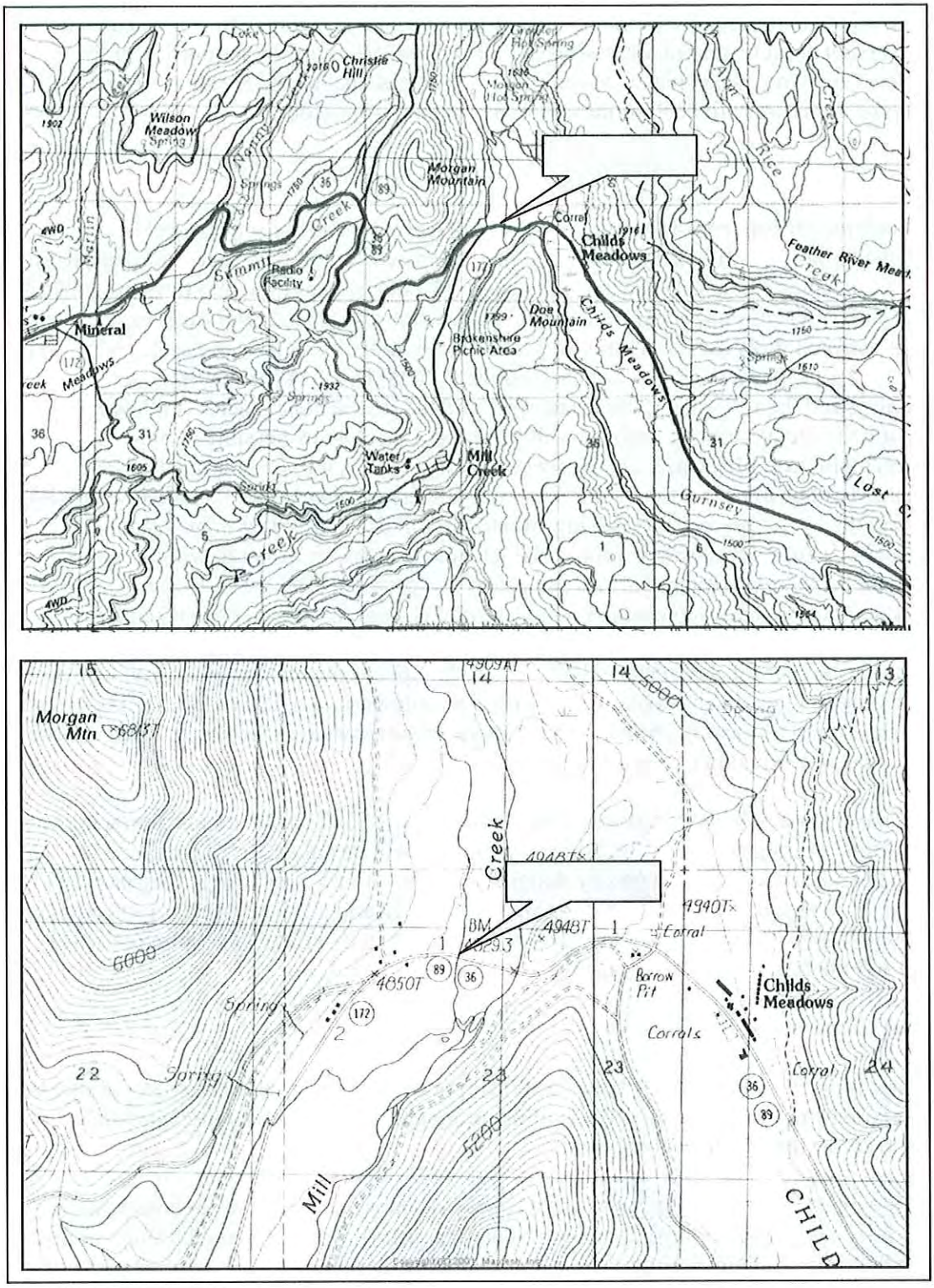

Figure 2. USGS 7.5-minute Quadrangle Maps. Boxes denote proposed project location.

be placed parallel with the stream channel between the live channel and the diversion channel from the diversion point to a point approximately 50 ft downstream of the south edge of the bridge. A layer of heavy gauge plastic sheeting will be placed against the K-rail and covered with fill to protect the western bank of the diversion channel from scour.

Stage 3

Once the temporary stream crossing structures are in place and the diversion channel is completed, the remaining fill at the north end of the diversion channel will be removed allowing the live stream to enter the diversion channel. Two small streams that flow into the west bank of Mill Creek north of the highway will also need to be diverted around the proposed project work area. It is anticipated that the two streams will be diverted through small diameter flexible pipes. Once the work area is dewatered, key trenches for the RSP will be excavated at the western bridge abutment and the west side of the center pier and the RSP will be placed. Following the placement of RSP, the western streambank will be restored as close as possible to pre-construction conditions. Mill Creek and the two tributary streams will be returned to their original channels. The upper portion of the temporary diversion channel will be filled with clean large rock and the temporary stream crossing structure north of the bridge will be dismantled. Gravel and cobbles used for the abutments of the temporary crossing structure will be spread over the stream banks in a manner that will not affect fish passage. The concrete K-rail used to reinforce the temporary diversion channel will be removed from the stream channel and the temporary crossing structure south of the highway bridge will be removed. The remaining cobbles from the temporary abutments will be spread throughout the streambed. Large woody debris that had been temporarily stockpiled will be placed downstream of the highway bridge on dry gravel bars within the stream channel. The eastern stream bank will then be restored as close as possible to pre-construction elevation and grade.

The deck rehabilitation will consist of removing the existing asphalt concrete (AC) surfacing and joint seals. Metal beam guardrail at the bridge approaches will be adjusted and upgraded as necessary to comply with modern highway design standards. A new polyester AC surface will be applied to the bridge deck. Polyester AC will seal the deck and provide superior protection of the underlying Portland cement concrete than traditional AC. New bridge deck joint seals will be installed and traffic striping will be applied to the deck surface.

D. Proposed Conservation Measures

The following conservation measures have been incorporated into the proposed project design to avoid and minimize potential adverse effects of the proposed project on federally listed fish species and their designated critical habitats.

(1) Protection of Environmentally Sensitive Areas. All areas not required for construction will be protected by establishing environmentally sensitive areas within the study limits. Installation of temporary environmentally sensitive areas fencing will be a first order of work in the construction contract. Placement of the fence will be inspected and approved by the California Department of Fish and Game (CDFG).

(2) Work Window for In-Stream Construction Activities. In-stream work will be allowed between July 1 and August 31 of the construction year to minimize impacts to listed salmonids. If a portion of the channel is dry prior to July 1, work may begin in that area. If any subsurface flow is encountered, measures must be taken to prevent turbid water from entering the channel downstream. Work in upland areas may begin prior to in-stream activities.

(3) Isolate the Work Area. No work will be allowed in flowing water except as required in the proposed project description. A temporary diversion will be constructed to dewater the work area and allow access to the west side of the stream. Two temporary bridges will be used in place of culverts to provide for fish passage. Abutments for the bridges will be constructed using clean washed uncrushed river-run gravel confined by K-rail. Although not anticipated to be present, the diversion channel will be constructed to allow passage of adult salmonids. The temporary diversion channel will be no deeper than the elevation of thalweg of the main stream channel.

Upon completion of the proposed project, the diversion shall be removed and flow returned to its original channel. Gravel from the temporary bridge abutments will be left in place and spread over the stream banks. The upper portion of the diversion channel will be filled with enough clean material to prevent the stream flow from returning to the diversion channel.

(4) Clean Washed Gravel. Gravel that is to be left in the stream shall be clean, pre-washed, uncrushed natural river rock. Gravel must be washed at least once and have a cleanness value of 85 or higher (California Test Number 227). Particle size shall be graded with 95-100 percent passing a 4- or 5-inch screen, 75-85 percent passing a 2-inch screen, 40-50 percent passing a 1-inch screen, 25-35 percent passing a ¾-inch screen, 10-20 percent passing a ½-inch screen, and 0-5 percent passing a ¼-inch screen (percent by dry weight) or approved by the CDFG. Gravel must be free of oils or any other petroleum based material, clay, debris, and other types of organic matter. Gravel may be stockpiled near the proposed project site, but mixing with any earthen material is prohibited.

(5) Water Diversion. Water from the highway ditch and landowner constructed ditch in the northwest quadrant will be diverted around the work area following Caltrans best management practice (BMP) NS-5 (Caltrans 2003), Clear Water Diversion.

(6) Fish Passage. Adult fish passage will be maintained at all times during construction. The diversion will consist of a constructed channel and temporary bridges that will allow fish to move upstream and downstream. Although the proposed project is timed to avoid adult spring-run and California CV steelhead, the channel is designed to allow adult fish to migrate through the proposed project area.

(7) Placement of RSP. RSP will be placed at or below the existing grade of the streambed, not above original ground.

(8) Fish Salvage and Relocation. It is anticipated that some fish may be stranded in the dewatered areas. A fish salvage operation will be conducted by a qualified biologist to reduce mortality. Fish stranded within the project limits by dewatering activities will be removed from the creek by seining or electro-fishing and immediately placed back into the creek downstream of the proposed project area.

(9) Enhance Juvenile Rearing Habitat. Habitat enhancement structures will be placed instream to improve rearing habitat for juvenile salmonids. Locations for individual structures will be identified by CDFG and NMFS. Structures will be designed by Caltrans and approved by CDFG and NMFS. Habitat enhancements may include, but are not limited to, bank stabilization, addition of large woody debris, or placement of boulder clusters. Limited access into environmentally sensitive areas on the southeast side of the proposed project will be allowed in order to build the enhancement structures. All work will be within the in-stream construction window of July 1 to August 31. Access will be directed by the Resident Engineer and Environmental Construction Liaison (ECL).

(10) Reduce Sediment into Mill Creek. Caltrans will enter into an agreement with the U.S. Forest Service to reduce sediment going into salmonid habitat in the upper Mill Creek drainage. Caltrans will contribute up to $50,000 to apply sediment reduction treatments to approximately 4.2 miles of Forest Service road 28N06 which runs parallel to Mill Creek south of Highway 172.

(11) Minimize Loss of Riparian Vegetation. Disturbance or removal of existing vegetation will not exceed the minimum necessary to complete the proposed project.

(12) Revegetation of Riparian Vegetation. All temporarily impacted riparian areas outside the active floodplain will be planted back with riparian species including white alder and willows from the local area. Riparian vegetation within the active floodplain will be trimmed to no lower than ground level to encourage rapid re-growth.

(13) Erosion and Sedimentation Control. Caltrans requires the contractor to prepare and implement a program to control water pollution on all activities during construction. A Storm Water Pollution Prevention Plan (SWPPP) will be prepared for this project. This plan includes the temporary BMPs that will be used during construction to control water pollution.

During construction, turbidity levels shall not be increased above the normal basin condition in accordance with the standard set by the Central Valley Regional Water Quality Control Board (CVWQCB). Activities shall not exceed the following turbidity criteria as stated in the basin plan:

- Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU;
- Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent;

- Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs; and
- Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.

Monitoring will be conducted per the 401 Certification. Should the standard be exceeded, proposed project operations contributing to excessive turbidity shall cease until the standard can be met again. This proposed project will be reviewed during construction for applicable BMPs to be used to reduce sediments. All construction areas will be stabilized prior to the onset of winter rains to prevent sediment loss into Mill Creek. Disturbed areas will be replanted or hydroseeded in order to reestablish the vegetation. The contractor shall use only certified weed-free erosion control materials to prevent the spread of non-native, weedy species.

(14) Prevention of Accidental Spills. A Spill Prevention Plan will be included in the SWPPP. This plan will outline the actions to be taken in the event of a leak or spill of petroleum products or hydraulic fluid within or adjacent to the creek channel. The plan for emergency clean-up of any spills will be available on-site and materials for spill cleanup will be maintained on-site. Construction vehicles and equipment shall be maintained to prevent contamination of soil or water from leaking hydraulic fluid, fuel, oil, and grease. Any equipment or vehicles operated within or adjacent to the stream channel shall be checked and maintained daily to prevent leaks of material that may be damaging to aquatic life or riparian vegetation.

In the event of any hazardous leak or spill within the channel, CDFG and NOAA Fisheries shall be notified immediately and all project activities that may affect listed salmonids or habitat shall cease. Work may resume after the agencies have reasonable assurances that no additional impacts will occur.

(15) Refueling. Re-fueling of vehicles and equipment shall take place outside of the stream channel at least 150 feet away from Mill Creek, unless this results in unsafe work conditions. NOAA Fisheries and CDFG shall approve the refueling area within 150 feet of the stream channel if required by work conditions.

(16) Parking. No overnight parking of equipment on the stream bank will be allowed.

(17) Water Drafting. Adequate screening will be required for any water trucks filling up at fish bearing streams to prevent impacts to salmonids.

(18) Other Regulatory Permits. The contractor shall follow the terms and conditions of the regulatory permits to be obtained from the CDFG, CVWQCB, and the United States Army Corps of Engineers (Corps).

(19) Construction Monitoring. The Caltrans ECL will monitor construction periodically during in-stream activities to ensure compliance with all of the requirements included in this BA.

E. Action Area

An action area is defined as areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). For purposes of this consultation, the action area consists of two components. The terrestrial component of the action area is defined by: (1) the proposed project footprint, including all cleared areas, and staging areas; and (2) construction noise levels in excess of ambient conditions. The aquatic component of the action area is defined by: (1) the segment of Mill Creek at the bridge construction site and upstream and downstream of the bridge construction site; (2) construction-related water quality impacts in excess of ambient conditions; and (3) operational storm water quality impacts in excess of ambient conditions.

III. STATUS OF THE SPECIES AND CRITICAL HABITAT

The following federally listed species evolutionarily significant units (ESUs) or distinct population segments (DPSs) and designated or proposed critical habitat occur in the action area and may be affected by the proposed project:

Central Valley spring-run Chinook salmon ESU (*Oncorhynchus tshawytscha*)
threatened (June 28, 2005, 70 FR 37160)

Central Valley spring-run Chinook salmon designated critical habitat
(September 2, 2005, 70 FR 52488)

California Central Valley steelhead DPS (*O. mykiss*)
threatened (January 5, 2006, 71 FR 834)

California Central Valley steelhead designated critical habitat
(September 2, 2005, 70 FR 52488)

A. Species and Critical Habitat Listing Status

In 2005, NMFS completed an updated status review of 16 salmon ESUs, including Sacramento River winter-run Chinook salmon and Central Valley (CV) spring-run Chinook salmon, and concluded that the species' status should remain as previously listed (June 28, 2005, 70 FR 37160). On January 5, 2006, NMFS published a final listing determination for 10 steelhead DPSs, including California CV steelhead. The new listing concludes that California CV steelhead will remain listed as threatened (71 FR 834).

1. CV spring-run Chinook salmon

NMFS listed the CV spring-run Chinook salmon ESU as threatened on September 16, 1999 (64 FR 50394). In June 2004, NMFS proposed that CV spring-run Chinook salmon remain listed as threatened (69 FR 33102). This proposal was based on the recognition that although CV spring-run Chinook salmon productivity trends are positive, the ESU continues to face risks from

having a limited number of remaining populations (*i.e.*, 3 existing independent populations from an estimated 17 historical populations), a limited geographic distribution, and potential hybridization with Feather River Hatchery (FRH) spring-run Chinook salmon, which until recently were not included in the ESU and are genetically divergent from other populations in Mill, Deer, and Butte creeks. On June 28, 2005, after reviewing the best available scientific and commercial information, NMFS issued its final decision to retain the status of CV spring-run Chinook salmon as threatened (70 FR 37160). This decision also included the FRH spring-run Chinook salmon population as part of the CV spring-run Chinook salmon ESU. Critical habitat was designated for CV spring-run Chinook salmon on September 2, 2005 (70 FR 52488). Designated critical habitat includes approximately 8,935 net miles (mi) of riverine habitat and 470 mi^2 of estuarine habitat (primarily in San Francisco-San Pablo-Suisun Bays) in California (70 FR 52488). Designated critical habitat for CV spring-run Chinook salmon occurs within the proposed project's action area.

2. California CV steelhead

California CV steelhead were originally listed as threatened on March 19, 1998 (63 FR 13347). This DPS consists of steelhead populations in the Sacramento and San Joaquin river basins in California's Central Valley. In June 2004, after a complete status review of the 26 west coast salmon DPSs, NMFS proposed that CV spring-run Chinook salmon remain listed as threatened (69 FR 33102), while the other Chinook salmon and steelhead were further reviewed. On June 28, 2005, after reviewing the best available scientific and commercial information, NMFS issued its final decision to retain the status of California CV steelhead as threatened (70 FR 37160). This decision also included the Coleman National Fish Hatchery and FRH steelhead populations. These populations were previously included in the DPS but were not deemed essential for conservation and thus not part of the listed steelhead population. Critical habitat was designated for California CV steelhead on September 2, 2005 (70 FR 52488). Critical habitat includes the stream channels to the ordinary high water line within designated stream reaches such as those of the American, Feather, and Yuba rivers, and Deer, Mill, Battle, Antelope, and Clear creeks in the Sacramento River basin; the Calaveras, Mokelumne, Stanislaus, and Tuolumne rivers in the San Joaquin River basin; and, the Sacramento and San Joaquin rivers and Sacramento-San Joaquin Rivers Delta (Delta). Designated critical habitat for California CV steelhead occurs within the proposed project's action area.

B. Species Life History, Population Dynamics, and Likelihood of Survival and Recovery

1. Chinook Salmon

General Life History

Chinook salmon exhibit two generalized freshwater life history types (Healey 1991). "Stream-type" Chinook salmon, enter freshwater months before spawning and reside in freshwater for a year or more following emergence, whereas "ocean-type" Chinook salmon spawn soon after entering freshwater and migrate to the ocean as fry or parr within their first year. Spring-run Chinook salmon exhibit a stream-type life history. Adults enter freshwater in the spring, hold over summer, spawn in fall, and the juveniles typically spend a year or more in freshwater before emigrating. Adequate instream flows and cool water temperatures are more critical for the

survival of Chinook salmon exhibiting a stream-type life history due to over summering by adults and juveniles.

Chinook salmon typically mature between 2 and 6 years of age (Myers *et al.* 1998). Freshwater entry and spawning timing generally are thought to be related to local water temperature and flow regimes. Runs are designated on the basis of adult migration timing; however, distinct runs also differ in the degree of maturation at the time of river entry, thermal regime and flow characteristics of their spawning site, and the actual time of spawning (Myers *et al.* 1998). Both spring-run and winter-run Chinook salmons tend to enter freshwater as immature fish, migrate far upriver, and delay spawning for weeks or months. For comparison, fall-run Chinook salmon enter freshwater at an advanced stage of maturity, move rapidly to their spawning areas on the mainstem or lower tributaries of the rivers, and spawn within a few days or weeks of freshwater entry (Healey 1991).

During their upstream migration, adult Chinook salmon require stream flows sufficient to provide olfactory and other orientation cues used to locate their natal streams. Adequate stream flows are necessary to allow adult passage to upstream holding habitat. The preferred temperature range for upstream migration is 38 degrees F to 56 degrees F (Bell 1991; CDFG 1998). Boles (1988) recommends water temperatures below 65 degrees F for adult Chinook salmon migration, and Lindley *et al.* (2004) report that adult migration is blocked when temperatures reach 70 degrees F, and that fish can become stressed as temperatures approach 70 degrees F. Reclamation reports that spring-run Chinook salmon holding in upper watershed locations prefer water temperatures below 60 degrees F; although salmon can tolerate temperatures up to 65 degrees F before they experience an increased susceptibility to disease.

Information on the migration rates of adult Chinook salmon in freshwater is scant and primarily comes from the Columbia River basin where information regarding migration behavior is needed to assess the effects of dams on travel times and passage (Matter and Sandford 2003). Keefer *et al.* (2004) found migration rates of Chinook salmon ranging from approximately 10 kilometers (km) per day to greater than 35 km per day and to be primarily correlated with date, and secondarily with discharge, year, and reach, in the Columbia River basin. Matter and Sandford (2003) documented migration rates of adult Chinook salmon ranging from 29 to 32 km per day in the Snake River. Adult Chinook salmon implanted with sonic tags and tracked throughout the Delta and lower Sacramento and San Joaquin rivers were observed exhibiting substantial upstream and downstream movement in a random fashion while on their upstream migration (California Bay-Delta Authority (CALFED) 2001). Adult salmonids migrating upstream are assumed to make greater use of pool and mid-channel habitat than channel margins (Stillwater Sciences 2004), particularly larger salmon such as Chinook salmon, as described by Hughes (2004). Adults are thought to exhibit crepuscular behavior during their upstream migrations; meaning that they primarily are active during twilight hours. Recent hydroacoustic monitoring showed peak upstream movement of adult CV spring-run Chinook salmon in lower Mill Creek, a tributary to the Sacramento River, occurring in the four-hour period before sunrise and again after sunset.

Spawning Chinook salmon require clean, loose gravel in swift, relatively shallow riffles or along the margins of deeper runs, and suitable water temperatures, depths, and velocities for redd

construction and adequate oxygenation of incubating eggs. Chinook salmon spawning typically occurs in gravel beds that are located at the tails of holding pools (USFWS 1995). The range of water depths and velocities in spawning beds that Chinook salmon find acceptable is very broad. The upper preferred water temperature for spawning Chinook salmon is 55 degrees F to 57 degrees F (Chambers 1956; Smith 1973; Bjornn and Reiser 1991; Snider 2001).

During the four to six week period when alevins remain in the gravel, they utilize their yolk-sac to nourish their bodies. As their yolk-sac is depleted, fry begin to emerge from the gravel to begin exogenous feeding in their natal stream. The post-emergent fry disperse to the margins of their natal stream, seeking out shallow waters with slower currents, finer sediments, and bank cover such as overhanging and submerged vegetation, root wads, and fallen woody debris, and begin feeding on zooplankton, small insects, and other micro-crustaceans. As they switch from endogenous nourishment to exogenous feeding, the fry's yolk-sac is reabsorbed, and the belly suture closes over the former location of the yolk-sac (button-up fry). Fry typically range from 25 mm to 40 mm during this stage. Some fry may take up residence in their natal stream for several weeks to a year or more, while others actively migrate, or are displaced downstream by the streams current. Once started downstream, fry may continue downstream to the estuary and rear, or may take up residence in river reaches along the way for a period of time ranging from weeks to a year (Healey 1991).

Rearing fry seek nearshore habitats containing beneficial aspects such as riparian vegetation and associated substrates important for providing aquatic and terrestrial invertebrates, predator avoidance, and slower velocities for resting (NMFS 1996). The benefits of shallow water habitats for salmonid rearing also have recently been realized as shallow water habitat has been found to be more productive than the main river channels, supporting higher growth rates, partially due to higher prey consumption rates, as well as favorable environmental temperatures (Sommer *et al.* 2001).

When juvenile Chinook salmon reach a length of 50 to 57 mm, they move into deeper water with higher current velocities, but still seek shelter and velocity refugia to minimize energy expenditures. In the mainstems of larger rivers, juveniles tend to migrate along the margins and avoid the elevated water velocities found in the thalweg of the channel. When the channel of the river is greater than 9 to 10 feet in depth, juvenile salmon tend to inhabit the surface waters (Healey 1982). Migrational cues, such as increasing turbidity from runoff, increased flows, changes in day length, or intraspecific competition from other fish in their natal streams may spur outmigration of juveniles when they have reached the appropriate stage of maturation (Kjelson *et al.* 1982; Brandes and McLain 2001).

Similar to adult movement, juvenile salmonid downstream movement is primarily crepuscular. Martin *et al.* (2001) found that the daily migration of juveniles passing Red Bluff Diversion Dam (RBDD) is highest in the four hour period prior to sunrise. Juvenile Chinook salmon migration rates vary considerably presumably depending on the physiological stage of the juvenile and hydrologic conditions. Kjelson *et al.* (1982) found fry Chinook salmon to travel as fast as 30 km per day in the Sacramento River and Sommer *et al.* (2001) found rates ranging from approximately 0.5 miles up to more than 6 miles per day in the Yolo Bypass. As Chinook salmon begin the smoltification stage, they prefer to rear further downstream where ambient

salinity is up to 1.5 to 2.5 parts per thousand (Healey 1980; Levy and Northcote 1981). Fry and parr may rear within riverine or estuarine habitats of the Sacramento River, the Delta, and their tributaries. In addition, CV Chinook salmon juveniles have been observed rearing in the lower reaches of non-natal tributaries and intermittent streams in the Sacramento Valley during the winter months (Maslin *et al.* 1997; Snider 2001). Within the Delta, juvenile Chinook salmon forage in shallow areas with protective cover, such as intertidal and subtidal mudflats, marshes, channels, and sloughs (McDonald 1960; Dunford 1975). Cladocerans, copepods, amphipods, and larvae of diptera, as well as small arachnids and ants are common prey items (Kjelson *et al.* 1982; Sommer *et al.* 2001; MacFarlane and Norton 2002). Shallow water habitats are more productive than the main river channels, supporting higher growth rates, partially due to higher prey consumption rates, as well as favorable environmental temperatures (Sommer *et al.* 2001). Optimal water temperatures for the growth of juvenile Chinook salmon in the Delta are between 54 to 57 degrees F (Brett 1952). In Suisun and San Pablo bays water temperatures reach 54 degrees F by February in a typical year. Other portions of the Delta (*i.e.*, South Delta and Central Delta) can reach 70 degrees F by February in a dry year. However, cooler temperatures are usually the norm until after the spring runoff has ended.

Within the estuarine habitat, juvenile Chinook salmon movements are dictated by the tidal cycles, following the rising tide into shallow water habitats from the deeper main channels, and returning to the main channels when the tide recedes (Levings 1982; Levy and Northcote 1982; Levings *et al.* 1986; Healey 1991). As juvenile Chinook salmon increase in length, they tend to school in the surface waters of the main and secondary channels and sloughs, following the tides into shallow water habitats to feed (Allen and Hassler 1986). In Suisun Marsh, Moyle *et al.* (1989) reported that Chinook salmon fry tend to remain close to the banks and vegetation, near protective cover, and in dead-end tidal channels. Kjelson *et al.* (1982) reported that juvenile Chinook salmon demonstrated a diel migration pattern, orienting themselves to nearshore cover and structure during the day, but moving into more open, offshore waters at night. The fish also distributed themselves vertically in relation to ambient light. During the night, juveniles were distributed randomly in the water column, but will school up during the day into the upper 3 meters of the water column. Available data indicate that juvenile Chinook salmon use Suisun Marsh extensively both as a migratory pathway and rearing area as they move downstream to the Pacific Ocean. Juvenile Chinook salmon were found to spend about 40 days migrating through the Delta to the mouth of San Francisco Bay and grew little in length or weight until they reached the Gulf of the Farallones (MacFarlane and Norton 2002). Based on the mainly ocean-type life history observed (*i.e.*, fall-run Chinook salmon) MacFarlane and Norton (2002) concluded that unlike other salmonid populations in the Pacific Northwest, CV Chinook salmon show little estuarine dependence and may benefit from expedited ocean entry.

2. Central Valley Spring-Run Chinook Salmon

Historically the spring-run Chinook salmon were the second most abundant salmon run in the CV (CDFG 1998). These fish occupied the 1,000 to 6,000 foot elevations of the San Joaquin, American, Yuba, Feather, Sacramento, McCloud and Pit rivers, with smaller populations in most tributaries with sufficient habitat for over-summering adults (Stone 1874, Rutter 1904, Clark 1929). The CV drainage as a whole is estimated to have supported spring-run Chinook salmon runs as large as 600,000 fish between the late 1880s and 1940s (CDFG 1998). Before the

construction of Friant Dam, nearly 50,000 adults were counted in the San Joaquin River alone (Fry 1961). Construction of other low elevation dams in the foothills of the Sierras on the American, Mokelumne, Stanislaus, Tuolumne, and Merced rivers extirpated CV spring-run Chinook salmon from these watersheds. Naturally spawning populations of CV spring-run Chinook salmon currently are restricted to accessible reaches of the upper Sacramento River, Antelope Creek, Battle Creek, Beegum Creek, Big Chico Creek, Butte Creek, Clear Creek, Deer Creek, Feather River, Mill Creek, and Yuba River (CDFG 1998). However, only Deer, Mill, and Butte creeks are considered to be independent spring-run Chinook populations. The other tributary populations are considered dependent populations, which rely on the three independent populations for continued existence at this time (Lindley *et al.* 2007).

Adult CV spring-run Chinook salmon leave the ocean to begin their upstream migration in late January and early February (CDFG 1998) and enter the Sacramento River between March and September, primarily in May and June (Table 1; Yoshiyama *et al.* 1998; Moyle 2002). Lindley *et al.* (2004) indicates adult CV spring-run Chinook salmon enter native tributaries from the Sacramento River primarily between mid-April and mid-June. Typically, spring-run Chinook salmon utilize mid- to high-elevation streams that provide appropriate temperatures and sufficient flow, cover, and pool depth to allow over-summering, while conserving energy and allowing their gonadal tissue to mature (Yoshiyama *et al.* 1998).

Spring-run Chinook salmon spawning occurs between September and October depending on water temperatures. Between 56 and 87 percent of adult spring-run Chinook salmon that enter the Sacramento River basin to spawn are 3 years old (Calkins *et al.* 1940, Fisher 1994).

Spring-run Chinook salmon fry emerge from the gravel from November to March (Moyle 2002) and the emigration timing is highly variable, as they may migrate downstream as young-of-the-year or as juveniles or yearlings. The modal size of fry migrants at approximately 40 mm between December and April in Mill, Butte, and Deer creeks reflects a prolonged emergence of fry from the gravel (Lindley *et al.* 2007). Studies in Butte Creek (Ward *et al.* 2002, 2003, McReynolds *et al.* 2005) found the majority of spring-run Chinook salmon migrants to be fry occurring primarily during December through and February; and that these movements appeared to be influenced by flow. Small numbers of CV spring-run Chinook salmon remained in Butte Creek to rear and migrated as yearlings during the following winter and spring. Juvenile emigration patterns in Mill and Deer creeks are very similar to patterns observed in Butte Creek, with the exception that Mill and Deer creek juveniles typically exhibit a later young-of-the-year migration and an earlier yearling migration (Lindley *et al.* 2007).

Once juveniles emerge from the gravel they initially seek areas of shallow water and low velocities while they finish absorbing the yolk sac and transition to exogenous feeding (Moyle 2002). Many also will disperse downstream during high-flow events. As is the case in other salmonids, there is a shift in microhabitat use by juveniles to deeper faster water as they grow larger. Microhabitat use can be influenced by the presence of predators which can force fish to select areas of heavy cover and suppress foraging in open areas (Moyle 2002). The emigration period for spring-run Chinook salmon extends from November to early May, with up to 69 percent of the young-of-the-year fish outmigrating through the lower Sacramento River and Delta during this period (CDFG 1998). Peak movement of juvenile CV spring-run Chinook

salmon in the Sacramento River at Knights Landing occurs in December, and again in March and April. However, juveniles also are observed between November and the end of May (Snider and Titus 2000). Based on the available information, the emigration timing of CV spring-run Chinook salmon appears highly variable (CDFG 1998). Some fish may begin emigrating soon after emergence from the gravel, whereas others over-summer and emigrate as yearlings with the onset of intense fall storms (CDFG 1998).

Table 1. The temporal occurrence of adult (a) and juvenile (d) Central Valley spring-run Chinook salmon in the Sacramento River. Darker shades indicate months of greatest abundance.

(a) Adult migration												
Location	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Sac.River basin[a,b]												
Sac. River mainstem[c]												
Mill Creek[d]												
Deer Creek[d]												
Butte Creek[d]												
(b) Adult Holding												
(c) Adult Spawning												
(d) Juvenile migration												
Location	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Sac. River Tribs[e]												
Upper Butte Creek[f]												
Mill, Deer, Butte Creeks[d]												
Sac. River at RBDD[c]												
Sac. River at KL[g]												
Relative Abundance:	= High				= Medium				= Low			

Note: Yearling spring-run Chinook salmon rear in their natal streams through the first summer following their birth. Downstream emigration generally occurs the following fall and winter. Young of the year spring-run Chinook salmon emigrate during the first spring after they hatch.

Sources: [a]Yoshiyama *et al.* (1998); [b]Moyle (2002); [c]Myers *et al.* (1998); [d]Lindley *et al.* (2004); CDFG (1998); [f]McReynolds *et al.* (2005); Ward *et al.* (2002, 2003); [g]Snider and Titus (2000)

On the Feather River, significant numbers of spring-run Chinook salmon, as identified by run timing, return to FRH. In 2002, FRH reported 4,189 returning spring-run Chinook salmon, which is 22 percent below the 10-year average of 4,727 fish. However, coded-wire tag (CWT) information from these hatchery returns indicates substantial introgression has occurred between fall-run and spring-run Chinook salmon populations within the Feather River system due to

hatchery practices. Because Chinook salmon are not temporally separated in the hatchery, spring-run and fall-run Chinook salmons are spawned together, thus compromising the genetic integrity of the spring-run and early fall-run Chinook salmon stocks. The number of naturally-spawning spring-run Chinook salmon in the Feather River has been estimated only periodically since the 1960s, with estimates ranging from 2 fish in 1978 to 2,908 in 1964. However, the genetic integrity of this population is questionable because of the significant temporal and spatial overlap with fall-run Chinook salmon (Good *et al.* 2005). For the reasons discussed above, the Feather River spring-run Chinook population numbers are not included in the following discussion of ESU abundance.

Although counts at the RBDD have been made to identify passage of spring-run Chinook, there are some concerns in using these numbers to establish ESU abundance. Some of these fish will continue into Clear Creek or Battle Creek (and will then be counted there under those tributaries) while others identified as spring-run based on temporal timing may actually be earlier returning fall-run Chinook salmon. Due to these factors, the discussion on historical abundance trends will focus on three tributary populations, Mill, Deer, and Butte creeks, as these are probably the best trend indicators for the CV spring-run Chinook ESU as a whole because they contain the primary independent populations within the ESU. Generally, these streams have shown a positive escapement trend since 1991. Escapement numbers are dominated by Butte Creek returns, which have averaged over 7,000 fish since 1995 (until 2005). During this same period, adult returns on Mill Creek have averaged 778 fish, and 1,463 fish on Deer Creek. Although recent trends (prior to 2005) had been positive, annual abundance estimates display a high level of fluctuation, and the overall number of CV spring-run Chinook salmon remains well below estimates of historic abundance. Additionally, in 2003, high water temperatures, high fish densities, and an outbreak of Columnaris disease (*Flexibacter columnaris*) and Ichthyophthiriasis (*Ichthyophthirius multifiis*) contributed to the pre-spawning mortality of an estimated 11,231 adult spring-run Chinook salmon (65% of the run) in Butte Creek, and 20-30% of the run in 2002. Most recently, returns on Butte, Mill and Deer creeks have been the lowest since prior to 2000, with the 2009 estimate on Butte Creek at 2,059, 210 on Mill Creek and 213 on Deer Creek (2008 was lower on Deer Creek at 140).

Lindley *et al.* (2007) concluded that Butte and Deer creek spring-run Chinook salmon are at low risk of extinction, according to their Population Viability Analysis (PVA) model and the other population viability criteria (population size, growth rate, hatchery influence, and catastrophic events). The Mill Creek population is at a low to moderate risk, satisfying some, but not all viability criteria. The Feather and Yuba River populations are data deficient and were not assessed for viability. However, because the existing CV spring-run Chinook salmon populations are spatially confined to relatively few remaining streams in only one of four historic diversity groups, the ESU remains vulnerable to catastrophic disturbance, and remains at a moderate to high risk of extinction. The ESU fails to meet the "representation and redundancy rule" since the Northern Sierra Nevada Diversity Group is the only diversity group that contains demonstrably viable populations out of at least three diversity groups that historically contained them.

Population Dynamics. The CV spring-run Chinook salmon ESU has displayed broad fluctuations in adult abundance, ranging from 1,403 in 1993 to 25,890 in 1982. The average

abundance for the ESU was 12,590 for the period of 1969 to 1979, 13,334 for the period of 1980 to 1990, 6,554 from 1991 to 2001, and 16,349 between 2002 and 2005. For the period of 2006 to 2008 the average abundance for the ESU fell to a low of 854 (CDFG 2009). Sacramento River tributary populations in Mill, Deer, and Butte creeks are probably the best trend indicators for the CV spring-run Chinook ESU as a whole because these streams contain the primary independent populations within the ESU. Generally, these streams have shown a positive escapement trend since 1991. Escapement numbers are dominated by Butte Creek returns, which have averaged over 7,000 fish since 1995 (until 2005). During this same period, adult returns on Mill Creek have averaged 778 fish, and 1,463 fish on Deer Creek. Although recent trends are positive, annual abundance estimates display a high level of fluctuation, and the overall number of CV spring-run Chinook salmon remains well below estimates of historic abundance. Additionally, in 2003 high water temperatures, high fish densities, and an outbreak of Columnaris Disease (*Flexibacter Columnaris*) and Ichthyophthiriasis (*Ichthyophthirius multifiis*) contributed to the pre-spawning mortality of an estimated 11,231 adult spring-run Chinook salmon in Butte Creek. Most recently, returns on Butte, Mill, and Deer creeks have been the lowest since prior to 2000, with the 2008 estimate on Butte Creek at 3,935, 362 on Mill Creek and 140 on Deer Creek.

Viable Salmonid Population Summary for Central Valley Spring-Run Chinook Salmon. The following provides the evaluation of the likelihood of viability for the threatened spring-run Chinook salmon ESU based on the viable salmonid population (VSP) parameters of abundance, productivity, spatial structure, and diversity.

Abundance. The CV spring-run Chinook salmon ESU has experienced a trend of increasing abundance in some natural populations, most dramatically in the Butte Creek population (Good *et al.* 2005). There has been more opportunistic utilization of migration-dependent streams overall. The Feather River Hatchery (FRH) spring-run Chinook salmon stock has been included in the ESU based on its genetic linkage to the natural population and the potential development of a conservation strategy for the hatchery program.

Productivity. The 5-year geometric mean for the extant Butte, Deer, and Mill creek spring-run Chinook salmon populations ranges from 491 to 4,513 fish (Good *et al.* 2005), indicating increasing productivity over the short-term and projected as likely to continue (Good *et al.* 2005). The productivity of the Feather River and Yuba River populations and contribution to the CV spring-run Chinook salmon ESU currently is unknown.

Spatial Structure. Spring-run Chinook salmon presence has been reported more frequently in several upper Central Valley creeks, but the sustainability of these runs is unknown. Butte Creek spring-run cohorts have recently utilized all available habitat in the creek; the population cannot expand further and it is unknown if individuals have opportunistically migrated to other systems. The spatial structure of the CV spring-run Chinook salmon ESU has been seriously compromised by the extirpation of all San Joaquin River basin spring-run Chinook salmon populations.

Diversity. The CV spring-run Chinook salmon ESU fails to meet the "representation and redundancy rule," since the Northern Sierra Nevada is the only diversity group in the CV spring-run Chinook salmon ESU that contains demonstrably viable populations out of at least 3

diversity groups that historically contained them. Independent populations of spring-run Chinook salmon only occur within the Northern Sierra Nevada diversity group. The Northwestern California diversity group contains a few ephemeral populations of spring-run Chinook salmon that are likely dependent on the Northern Sierra Nevada populations for their continued existence. The spring-run Chinook salmon populations that historically occurred in the Basalt and Porous lava, and Southern Sierra Nevada, diversity groups have been extirpated. Over the long term, the three remaining independent populations are considered to be vulnerable to catastrophic events, such as volcanic eruptions from Mount Lassen or large forest fires due to the close proximity of their headwaters to each other. Drought is also considered to pose a significant threat to the viability of the spring-run populations in the Deer, Mill and Butte creek watersheds due to their close proximity to each other. Feather River spring-run Chinook salmon have introgressed with the fall-run Chinook salmon, and it appears that the Yuba River Chinook salmon population may have been impacted by FRH fish straying into the Yuba River. Additionally, the diversity of the spring-run Chinook salmon ESU has been further reduced with the loss of the San Joaquin River basin spring-run Chinook salmon populations. Butte Creek and Deer Creek spring-run Chinook salmon are at low risk of extinction, satisfying both population viability analysis and other viability criteria. Mill Creek spring-run Chinook salmon are at moderate extinction risk according to the PVA, but appear to satisfy the other viability criteria for low risk status (Lindley *et al.* 2007). CV spring-run Chinook salmon fail the representation and redundancy rule for ESU viability, as their current distribution has been severely constricted. Therefore, CV spring-run Chinook salmon are at moderate risk of extinction over an extended period of time.

3. California Central Valley Steelhead

General Life History

Steelhead can be divided into two life history types, summer-run steelhead and winter-run steelhead, based on their state of sexual maturity at the time of river entry and the duration of their spawning migration, stream-maturing and ocean-maturing. Only winter-run steelhead are currently found in CV rivers and streams (McEwan and Jackson 1996), although there are indications that summer-run steelhead were present in the Sacramento River system prior to the commencement of large-scale dam construction in the 1940s [Interagency Ecological Program (IEP) Steelhead Project Work Team 1999]. At present, summer-run steelhead are found only in northern California coast drainages, mostly in tributaries of the Eel, Klamath, and Trinity river systems (McEwan and Jackson 1996).

California CV steelhead generally leave the ocean from August through April (Busby *et al.* 1996), and spawn from December through April, with peaks from January through March, in small streams and tributaries where cool, well oxygenated water is available year-round (Table 2; Hallock *et al.* 1961; McEwan and Jackson 1996). Timing of upstream migration is correlated with higher flow events, such as freshets or sand bar breaches, and associated lower water temperatures. Unlike Pacific salmon, steelhead are iteroparous, or capable of spawning more than once before death (Busby *et al.* 1996). However, it is rare for steelhead to spawn more than twice before dying; most that do so are females (Busby *et al.* 1996). Iteroparity is more common among southern steelhead populations than northern populations (Busby *et al.* 1996). Although

one-time spawners are the great majority, Shapolov and Taft (1954) reported that repeat spawners are relatively numerous (17.2 percent) in California streams.

Spawning occurs during winter and spring months. The length of time it takes for eggs to hatch depends mostly on water temperature. Hatching of steelhead eggs in hatcheries takes about 30 days at 51 degrees F. Fry emerge from the gravel usually about 4 to 6 weeks after hatching, but factors such as redd depth, gravel size, siltation, and temperature can speed or retard this time (Shapovalov and Taft 1954). Newly-emerged fry move to the shallow, protected areas associated with the stream margin (McEwan and Jackson 1996) and they soon move to other areas of the stream and establish feeding locations, which they defend (Shapovalov and Taft 1954).

Steelhead rearing during the summer takes place primarily in higher velocity areas in pools, although young-of-the-year also are abundant in glides and riffles. Productive steelhead habitat is characterized by complexity, primarily in the form of large and small woody debris. Cover is an important habitat component for juvenile steelhead both as velocity refugia and as a means of avoiding predation (Meehan and Bjornn 1991).

Juvenile steelhead emigrate episodically from natal streams during fall, winter, and spring high flows. Emigrating California CV steelhead use the lower reaches of the Sacramento River and the Delta for rearing and as a migration corridor to the ocean. Juvenile California CV steelhead feed mostly on drifting aquatic organisms and terrestrial insects and will also take active bottom invertebrates (Moyle 2002).

Some juvenile California CV steelhead may utilize tidal marsh areas, non-tidal freshwater marshes, and other shallow water areas in the Delta as rearing areas for short periods prior to their final emigration to the sea. Hallock *et al.* (1961) found that juvenile steelhead in the Sacramento River basin migrate downstream during most months of the year, but the peak period of emigration occurred in the spring, with a much smaller peak in the fall. Nobriga and Cadrett (2003) have also verified these temporal findings based on analysis of captures at Chipps Island, Suisun Bay.

Historic California CV steelhead run sizes are difficult to estimate given the paucity of data, but may have approached 1 to 2 million adults annually (McEwan 2001). By the early 1960s, the steelhead run size had declined to about 40,000 adults (McEwan 2001). Over the past 30 years, the naturally-spawned steelhead populations in the upper Sacramento River have declined substantially. Hallock *et al.* (1961) estimated an average of 20,540 adult steelhead through the 1960s in the Sacramento River, upstream of the Feather River. Steelhead counts at RBDD declined from an average of 11,187 for the period of 1967 to 1977, to an average of approximately 2,000 through the early 1990s, with an estimated total annual run size for the entire Sacramento-San Joaquin system, based on RBDD counts, to be no more than 10,000 adults (McEwan and Jackson 1996; McEwan 2001). Steelhead escapement surveys at RBDD ended in 1993 due to changes in dam operations.

Recent estimates from trawling data in the Delta indicate that approximately 100,000 to 300,000 (mean 200,000) smolts emigrate to the ocean per year, representing approximately 3,600 female

Central Valley steelhead spawners in the CV basin (Good *et al.* 2005). This can be compared with McEwan's (2001) estimate of 1 to 2 million spawners before 1850, and 40,000 spawners in the 1960s.

Existing wild steelhead stocks in the CV are mostly confined to the upper Sacramento River and its tributaries, including Antelope, Deer, and Mill creeks and the Yuba River. Populations may exist in Big Chico and Butte creeks, and a few wild steelhead are produced in the American and Feather rivers (McEwan and Jackson 1996). Recent snorkel surveys (1999 to 2008) indicate that steelhead are present in Clear Creek (Giovannetti *et al.* 2008; Good *et al.* 2005) and in Battle Creek (CDFG 2010). Because of the large resident *O. mykiss* population in Clear Creek, steelhead spawner abundance has not been estimated.

Until recently, California CV steelhead were thought to be extirpated from the San Joaquin River system. However, recent monitoring has detected small, self-sustaining populations of steelhead in the Stanislaus, Mokelumne, and Calaveras rivers, and other streams previously thought to be devoid of steelhead (McEwan 2001). On the Stanislaus River, steelhead smolts have been captured in rotary screw traps at Caswell State Park and Oakdale each year since 1995 (S.P. Cramer and Associates Inc. 2000).

It is possible that naturally-spawning populations exist in many other streams but are undetected due to lack of monitoring programs (IEP Steelhead Project Work Team 1999). Incidental catches and observations of steelhead juveniles have also occurred on the Tuolumne and Merced rivers during fall-run Chinook salmon monitoring activities, indicating that steelhead are widespread throughout accessible streams and rivers in the CV (Good *et al.* 2005). CDFG staff prepared juvenile migrant California CV steelhead catch summaries on the San Joaquin River near Mossdale, representing migrants from the Stanislaus, Tuolumne, and Merced rivers. Based on trawl recoveries at Mossdale between 1988 and 2002, as well as rotary screw trap efforts in all three tributaries, CDFG (2003) stated that it is "clear from this data that rainbow trout do occur in all the tributaries as migrants and that the vast majority of them occur on the Stanislaus River." The documented returns on the order of single fish in these tributaries suggest that existing populations of CV steelhead on the Tuolumne, Merced, and lower San Joaquin rivers are severely depressed.

Good *et al.* (2005) indicated that population census estimates completed in the 1990s found that compared to most Chinook salmon populations in the CV California CV steelhead spawning population upstream of the RBDD had a fairly strong negative population growth rate and small population size; in addition, that this decline was continuing, as evidenced by new information (Chipps Island trawl data). California CV steelhead populations generally show a continuing decline, an overall low abundance, and fluctuating return rates. The future of California CV steelhead is uncertain due to limited data concerning their status. However, Lindley *et al.* (2007) concluded that there is sufficient evidence to suggest that the ESU is at moderate to high risk of extinction.

Table 2. The temporal occurrence of adult (a) and juvenile (b) Central Valley steelhead in the Central Valley. Darker shades indicate months of greatest relative abundance.

(a) Adult

Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
[1,3]Sac. River												
[2,3]Sac R at Red Bluff												
[4]Mill, Deer Creeks												
[6]Sac R. at Fremont Weir												
[6]Sac R. at Fremont Weir												
[7]San Joaquin River												

(b) Juvenile

Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
[1,2]Sacramento River												
[2,8]Sac. R at Knights Landing (KL)												
[9]Sac. River @ KL												
[10]Chipps Island (wild)												
[8]Mossdale												
[11]Woodbridge Dam												
[12]Stan R. at Caswell												
[13]Sac R. at Hood												

Relative Abundance: = High = Medium = Low

Source: [1]Hallock 1961; [2]McEwan 2001; [3]USFWS unpublished data; [4]CDFG 1995; [5]Hallock et al. 1957; [6]Bailey 1954;
[7]CDFG Steelhead Report Card Data; [8]CDFG unpublished data; [9]Snider and Titus 2000; [10]Nobriga and Cadrett 2003; [11]Jones & Stokes Associates, Inc., 2002; [12]S.P. Cramer and Associates, Inc. 2000; [13]Schaffter 1980.

Population Dynamics. Historic California CV steelhead run sizes are difficult to estimate given the paucity of data, but may have approached one to two million adults annually (McEwan 2001). By the early 1960s the steelhead run size had declined to about 40,000 adults (McEwan 2001). Over the past 30 years, the naturally-spawned steelhead populations in the upper Sacramento River have declined substantially. Hallock *et al.* (1961) estimated an average of 20,540 adult steelhead through the 1960s in the Sacramento River, upstream of the Feather River. Steelhead counts at the RBDD declined from an average of 11,187 for the period of 1967 to 1977, to an average of approximately 2,000 through the early 1990s, with an estimated total annual run size for the entire Sacramento-San Joaquin system, based on RBDD counts, to be no more than 10,000 adults (McEwan and Jackson 1996, McEwan 2001). Steelhead escapement

surveys at RBDD ended in 1993 due to changes in dam operations.

Viable Salmonid Population Summary for Central Valley Steelhead. In order to determine the current likelihood of viability of the California CV steelhead DPS, we used the historical population structure of California CV steelhead presented in Lindley *et al.* (2006) and the concept of VSP for evaluating populations described by McElhany *et al.* (2000). While McElhany *et al.* (2000) introduced and described the concept of VSP, Lindley *et al.* (2007) applied the concept to the California CV steelhead DPS. The following provides the evaluation of the likelihood of viability for the threatened California CV steelhead DPS based on the VSP parameters of abundance, productivity, spatial structure, and diversity.

Abundance. All indications are that natural California CV steelhead have continued to decrease in abundance and in the proportion of natural fish over the past 25 years (Good *et al.* 2005); the long-term trend remains negative. There has been little steelhead population monitoring despite 100 percent marking of hatchery steelhead since 1998. Hatchery production and returns are far greater than those of natural fish and include significant numbers of non-DPS-origin Eel River steelhead stock.

Productivity. An estimated 100,000 to 300,000 natural juvenile steelhead are estimated to leave the CV annually, based on rough calculations from sporadic catches in trawl gear (Good *et al.* 2005). Concurrently, one million in-DPS hatchery steelhead smolts and another half million out-of-DPS hatchery steelhead smolts are released annually in the CV. The estimated ratio of non-clipped to clipped steelhead has decreased from 0.3 percent to less than 0.1 percent, with a net decrease to one-third of wild female spawners from 1998 to 2000 (Good *et al.* 2005).

Spatial Structure. Steelhead appear to be well-distributed where found throughout the CV (Good *et al.* 2005). Until recently, there was very little documented evidence of steelhead due to the lack of monitoring efforts. Since 2000, steelhead have been confirmed in the Stanislaus and Calaveras rivers.

Diversity. Analysis of natural and hatchery steelhead stocks in the CV reveal genetic structure remaining in the DPS (Nielsen *et al.* 2003). There appears to be a great amount of gene flow among upper Sacramento River basin stocks, due to the post-dam, lower basin distribution of steelhead and management of stocks. Recent reductions in natural population sizes have created genetic bottlenecks in several California CV steelhead stocks (Good *et al.* 2005; Nielsen *et al.* 2003). The out-of-basin steelhead stocks of the Nimbus and Mokelumne river hatcheries are not included in the California CV steelhead DPS.

Lindley *et al.* (2007) indicated that prior population census estimates completed in the 1990s found the California CV steelhead spawning population upstream of the RBDD had a fairly strong negative population growth rate and small population size. Good *et al.* (2005) indicated the decline was continuing as evidenced by new information (Chipps Island trawl data). California CV steelhead populations generally show a continuing decline, an overall low abundance, and fluctuating return rates. The future of California CV steelhead is uncertain due to limited data concerning their status. However, Lindley *et al.* (2007) concluded that there is sufficient evidence to suggest that the DPS is at moderate to high risk of extinction.

C. Factors Affecting the Species and Critical Habitat

Water development, water quality, over-harvesting, and disease and predation are some of the many issues affecting the decline of listed anadromous fish species in California. Hydropower, flood control, and water supply dams of the Federal CV Project (CVP), State Water Project (SWP), and other municipal and private entities have permanently blocked or hindered salmonid and green sturgeon access to historical spawning and rearing grounds. Clark (1929) estimated that originally there were 6,000 linear miles of salmon habitat in the CV system and that 80 percent of this habitat had been lost by 1928. Yoshiyama *et al.* (1996) calculated that roughly 2,000 linear miles of salmon habitat was actually available before dam construction and mining, and concluded that 82 percent is not accessible today.

As a result of migrational barriers, spring-run Chinook salmon, and steelhead populations have been confined to lower elevation mainstems that historically only were used for migration. Higher temperatures at these lower elevations during late-summer and fall are a major stressor to adult and juvenile salmonids. Thus, population abundances have declined in these streams due to decreased quantity and quality of spawning and rearing habitat. In particular, the RBDD blocked all access to the primary spawning habitat in the Sacramento River for many years under the old operational procedures, and continues to block a significant portion of the adult spawning run under current operational procedures.

The diversion and storage of natural flows by dams and diversion structures on CV waterways have depleted stream flows and altered the natural cycles by which juvenile and adult salmonids have evolved. Changes in stream flows and diversions of water affect spawning habitat, freshwater rearing habitat, freshwater migration corridors, and estuarine habitat primary constituent elements (PCEs). As much as 60 percent of the natural historical inflow to CV watersheds and the Delta have been diverted for human uses. Depleted flows have contributed to higher temperatures, lower dissolved oxygen levels, and decreased recruitment of gravel and instream woody material. More uniform flows year-round have resulted in diminished natural channel formation, altered food web processes, and slower regeneration of riparian vegetation. These stable flow patterns have reduced bedload movement, caused spawning gravels to become embedded, and decreased channel widths due to channel incision, all of which has decreased the available spawning and rearing habitat downstream of dams.

Water withdrawals for agricultural and municipal purposes have reduced river flows and increased temperatures during the critical summer months, and in some cases, have been of a sufficient magnitude to result in reverse flows in the lower San Joaquin River (Reynolds *et al.* 1993). Direct relationships exist between water temperature, water flow, and juvenile salmonid survival (Brandes and McLain 2001). High water temperatures in the Sacramento River have limited the survival of young salmonids.

The development of the water conveyance system in the Delta has resulted in the construction of more than 1,100 miles of channels and diversions to increase channel elevations and flow capacity of the channels (Mount 1995). Levee development in the CV affects spawning habitat, freshwater rearing habitat, freshwater migration corridors, and estuarine habitat PCEs. The

construction of levees disrupts the natural processes of the river, resulting in a multitude of habitat-related effects that have diminished conditions for adult and juvenile migration and survival.

Many of these levees use angular rock (riprap) to armor the bank from erosive forces. The effects of channelization and riprapping include the alteration of river hydraulics and cover along the bank as a result of changes in bank configuration and structural features (Stillwater Sciences 2006). These changes affect the quantity and quality of nearshore habitat for juvenile salmonids and have been thoroughly studied (USFWS 2000; Schmetterling *et al.* 2001; Garland *et al.* 2002). Simple slopes protected with rock revetment generally create nearshore hydraulic conditions characterized by greater depths and faster, more homogeneous water velocities than occur along natural banks. Higher water velocities typically inhibit deposition and retention of sediment and woody debris. These changes generally reduce the range of habitat conditions typically found along natural shorelines, especially by eliminating the shallow, slow-velocity river margins used by juvenile fish as refuge and escape from fast currents, deep water, and predators (Stillwater Sciences 2006).

Natural changes in the freshwater and marine environments play a major role in salmonid abundance. Recent evidence suggests that marine survival among salmonids fluctuates in response to 20- to 30-year cycles of climatic conditions and ocean productivity (Hare *et al.* 1999, Mantua and Hare 2002). This phenomenon has been referred to as the Pacific Decadal Oscillation. In addition, large-scale ocean temperature shifts, such as El Niño, appear to change ocean productivity, and can have significant effects on rainfall in the CV.

Another key factor affecting many West Coast fish stocks has been a general 30-year decline in ocean productivity. The mechanism whereby stocks are affected is not well understood, partially because the pattern of response to these changing ocean conditions has differed among stocks, presumably due to differences in their ocean timing and distribution. NMFS presumes that survival is driven largely by events occurring between ocean entry and recruitment to a subadult life stage. One indicator of early ocean survival can be computed as a ratio of coded wire tag (CWT) recoveries from subadults relative to the number of CWTs released from that brood year.

Salmon and steelhead are exposed to high rates of natural predation, particularly during freshwater rearing and migration stages. Ocean predation may also contribute to significant natural mortality, although to what degree is not known. In general, salmonids are prey for pelagic fishes, birds, and marine mammals, including harbor seals, sea lions, and killer whales. There have been recent concerns that the rebound of seal and sea lion populations—following their protection under the Marine Mammal Protection Act of 1972—has substantially increased salmonid mortality.

Finally, the unusual drought conditions in 2001 warrant additional consideration. Flows in 2001 were among the lowest flow conditions on record. The available water in the Sacramento and San Joaquin river watersheds was 70 percent and 66 percent of normal, according to the Sacramento River Index and the San Joaquin River Index, respectively. The juveniles that passed downriver during the 2001 spring and summer out migration were likely affected, and this, in turn, likely affected adult returns primarily in 2003 and 2004, depending on the stock and

species.

According to NMFS' (2005b) Critical Habitat Analytical Review Team (CHART) report, the major categories of habitat-related activities affecting CV salmonids include: (1) irrigation impoundments and withdrawals, (2) channel modifications and levee maintenance, (3) the presence and operation of hydroelectric dams, (4) flood control and streambank stabilization, and (5) exotic and invasive species introductions and management. All of these activities affect PCEs via their alteration of one or more of the following: stream hydrology, flow and water-level modification, fish passage, geomorphology and sediment transport, temperature, dissolved oxygen levels, nearshore and aquatic vegetation, soils and nutrients, physical habitat structure and complexity, forage, and predation (Spence *et al.* 1996). According to the CHART report (NMFS 2005b), the condition of critical habitat varies throughout the range of the species. Generally, the conservation value of existing spawning habitat ranges from moderate to high quality, with the primary threats including changes to water quality, and spawning gravel composition from rural, suburban, and urban development, forestry, and road construction and maintenance. Downstream, river and estuarine migration and rearing corridors range in condition from poor to high quality depending on location. Tributary migratory and rearing corridors tended to rate as moderate quality due to threats to adult and juvenile life stages from irrigation diversion, small dams, and water quality. Delta (*i.e.*, estuarine) and mainstem Sacramento and San Joaquin river reaches tended to range from poor to high quality, depending on location. In the alluvial reach of the Sacramento River between Red Bluff and Colusa, the PCEs of rearing and migration habitat are in good condition because, despite the influence of upstream dams, this reach retains natural, and functional channel processes that maintain and develop anadromous fish habitat. The river reach downstream from Colusa and including the Delta is poor in quality due to impaired hydrologic conditions from dam operations, water quality from agriculture, degraded nearshore and riparian habitat from levee construction and maintenance, and habitat loss and fragmentation.

IV. ENVIRONEMENTAL BASELINE

The environmental baseline "includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process" (50 CFR §402.02).

A. Status of the Species and Critical Habitat within the Action Area

1. Status of the Species within the Action Area

a. *CV spring-Run Chinook salmon*

The only streams in the CV known to support consistently spawning wild populations of spring-run Chinook salmon are Mill, Deer, and Butte creeks (Moyle 2002). These streams have cool water in the higher altitudes for salmon to hold over through the summer. Adults typically enter freshwater from April through June when flows are high enough for them to reach high elevation

spawning and rearing habitat (NMFS 1998a). In the CV, summer water temperatures are suitable for spring-run Chinook salmon holding habitat only above 500 – 1,640 foot elevations (Good *et al.* 2005). After reaching higher elevations, they hold over for the summer in deep, cool pools (Lindley *et al.* 2004). Spawning occurs in the fall between late August and early October (NMFS 1998a). Fry emergence of spring-run occurs from March through June, and then juveniles emigrate to the ocean after three to fifteen months in freshwater (Yoshiyama *et al.* 1998).

Mill Creek supports self-sustaining populations of spring-run Chinook salmon and steelhead (Table 3). Historically and today, 44 miles of the creek are accessible to these species (NMFS 2000).

Table 3. Salmonid Presence at the Mill Creek Bridge Project Area.[1]

Species/Run	Adult Migration	Downstream Migration	Spawning	Rearing	Critical Habitat
Spring-run Chinook	Yes	Yes	Yes	Yes	Yes
Steelhead	Yes	Yes	Yes	Yes	Yes

[1] based on information from CDFG and NMFS.

The upper limit of the spring-run Chinook salmon migration on Mill Creek is Morgan Hot Springs, approximately two miles upstream of SR 36 (Yoshiyama 1996). Spawning and rearing occurs primarily from two miles upstream of SR 36 to 24 miles downstream (NMFS 2000). Spring-run Chinook salmon have been observed spawning at an elevation of 5,300 feet in Mill Creek, the highest known spawning activity in California (CDFG 1996). Four per cent of spring-run Chinook salmon spawn from SR 36 to the end of their habitat and redds occur in the bridge vicinity (Harvey-Arrison 2009). Spring-run Chinook salmon access is mainly affected by low flows due to diversions, but a new Water Exchange Agreement enhancing water flows in lower Mill Creek has improved access (DWR 2005). The average spring-run Chinook salmon Annual adult escapement in Mill Creek from 1960 to 2003 was 882 fish. The 2003 Annual adult escapement was estimated at 1,426 fish (GrandTab CDFG, Red Bluff Office, contact Colleen Harvey-Arrison, 2004).

b. *California CV steelhead*

Much of the information on historical abundance and stock characteristics that exists for California CV steelhead is derived from an intensive CDFG research program conducted in the 1950s (McEwan 2001). Steelhead populations in Mill Creek are very low (Johnson *et al.* 2009). According to records of cumulative totals of steelhead counted during the 1954-1963 time period, adult steelhead spawners migrated into Mill Creek during all months from September through June although slightly more than 90 percent of the cumulative total migrated between the second week in October and mid-March. Two peak periods of migration occurred: (1) between the last week in October through the second week in November (accounting for 28 percent of the run) and (2) approximately the first half of February (accounting for 11 percent of the run). The average annual run size during the 10 year period was 1,160 adults (McEwan 2001).

2. Status of Critical Habitat within the Action Area

The upper limit of critical habitat for spring-run Chinook in Mill Creek is approximately two miles upstream of the SR 36 crossing. The upper limit of critical habitat for steelhead is approximately one mile upstream of the SR 36 crossing.

NMFS has developed a list of six PCEs based on the life history of salmon and steelhead that are essential to the conservation of these ESUs (NMFS 2005a). Three of these elements pertain to the freshwater portion of salmonids life history:

(1) Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation and larval development.
(2) Freshwater rearing sites with: a) water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility; b) water quality and forage supporting juvenile development; and c) natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks.
(3) Freshwater migration corridors free of obstruction and excessive predation with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival.

All three critical habitats freshwater PCEs exist at the project site at Mill Creek:

(1) Spawning sites. Redds occur in the bridge vicinity (Harvey-Arrison 2009).
(2) Rearing sites. There is adequate water quantity all year, food, and cover for rearing juveniles. Mill Creek is used by both spring-run Chinook and steelhead for rearing.

(3) Migration corridors. There are no barriers to fish passage and adequate water quality, quantity, and natural cover are present for migration. Adult spring-run Chinook and steelhead migrate through the project area to spawn. Juvenile spring-run Chinook and steelhead migrate through the area when returning to the ocean.

B. Factors Affecting the Species and Habitat in the Action Area

Natural flows at Mill Creek are altered by diverting water at three dams: Ward Dam, Upper Diversion Dam, and Clough Dam. These dams have historically diverted most of the natural stream flow from Mill Creek, particularly during dry years. These dams are located downstream of the project area and therefore only impact migration to the project site and not flows at the project site. The pattern of discharge in Mill Creek has created migration issues for listed salmonids. Late spring and early summer diversions resulted in in-stream flows low enough to block access for late-migrating adults. Low flows may also prevent downstream migrating smolts from reaching the Sacramento (CDFG, 1996). Data shows that increases in discharge coincide with increases in daily passage of fish (Johnson *et al.* 2009). In addition, recent evaluations of Sacramento Valley anadromous fishery resources (USFWS 1995; CDFG

1996) have consistently identified limited flows in the reaches of Mill Creek as one factor limiting anadromous fish production in the watersheds. Other factors affecting Mill Creek include land use activities such as agricultural practices, grazing, and forestry.

Very little is known about the application of herbicides in the watersheds. They have been used on Forest Service lands, and more extensively on lands managed by Sierra Pacific Industries over the past few decades. On Lassen National Forest lands, herbicide use is considered for use in plantations to increase survival or growth of seedlings. Plantations resulted from regeneration harvesting prescribed in the 1970's and 1980's and from wildfires with stand replacing intensity. As the regional population grows, there will be increased demand for conversion of agricultural lands to residential development in the lower watersheds. The impact of conversion of lands below the canyon mouths from agricultural to residential uses on the fisheries of the creeks is uncertain.

V. EFFECTS OF THE ACTION

Pursuant to Section 7(a)(2) of the ESA (16 U.S.C. §1536), Federal agencies are directed to ensure that their activities are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. This biological opinion assesses the effects of the Mill Creek Bridge project on California CV steelhead and spring-run Chinook salmon and their designated critical habitat. The proposed project is likely to adversely affect listed species and critical habitat by diverting water in Mill Creek and by loss of riparian vegetation. In the *Description of the Proposed Action* section of this biological opinion, NMFS provided an overview of the action. In the *Status of the Species* and *Environmental Baseline* sections of this Opinion, NMFS provided an overview of the threatened and endangered species and critical habitat that are likely to be adversely affected by the activity under consultation.

Regulations that implement section 7(b)(2) of the ESA require NMFS to evaluate the direct and indirect effects of Federal actions and actions that are interrelated with or interdependent to the Federal action to determine if it would be reasonable to expect them to appreciably reduce listed species' likelihood of both surviving and recovering in the wild by reducing their reproduction, numbers, or distribution (16 U.S.C. §1536; 50 CFR 402.02). Section 7 of the ESA also requires NMFS to determine if Federal actions would appreciably diminish the value of critical habitat for the conservation of listed species (16 U.S.C. §1536). This biological opinion does not rely on the regulatory definition of "destruction or adverse modification" of critical habitat at 50 CFR 402.02. Instead, we have relied upon the statutory provisions of the ESA to complete the following analysis with respect to critical habitat.

A. Approach to the Assessment

NMFS generally approaches "jeopardy" analyses in a series of steps. First, NMFS evaluates the available evidence to identify direct and indirect physical, chemical, and biotic effects of the proposed actions (these effects include direct impacts to a species habitat; modifications to something in the species' environment - such as reducing a species' prey base, enhancing populations of predators, altering its spawning substrate, altering its ambient temperature

regimes; or adding something novel to a species' environment - such as introducing exotic competitors or disruptive noises). Once NMFS has identified the effects of the action, the available evidence is evaluated to identify a species' likelihood and extent of exposure to any adverse effects caused by the action (*i.e.* the extent of spatial and temporal overlap between the species and the effects of the action). Once NMFS has identified the level of exposure that a species will have to the effects of the action, the available evidence is evaluated to identify the species' probable response, including physical and behavioral reactions, to these effects. These responses then will be assessed to determine if they can reasonably be expected to reduce a species' reproduction, numbers, or distribution (for example, by changing birth, death, immigration, or emigration rates; increasing the age at which individuals reach sexual maturity; decreasing the age at which individuals stop reproducing; among others). The available evidence is then used to determine if these reductions, if there are any, could reasonably be expected to appreciably reduce a species' likelihood of surviving and recovering in the wild.

1. Information Available for the Assessment

To conduct the assessment, NMFS examined an extensive amount of evidence from a variety of sources. Detailed background information on the status of these species and critical habitat has been published in a number of documents including peer reviewed scientific journals, primary reference materials, governmental and non-governmental reports, previous biological opinions, documents evaluating the effects of underwater noise from pile driving, the biological assessment for this project, and project meeting notes. Additional information investigating the effects of the project's actions on the listed species in question, their anticipated response to these actions, and the environmental consequences of the actions as a whole was obtained from the aforementioned resources. For information that has been taken directly from published, citable documents, those citations have been referenced in the text and listed at the end of this document.

2. Assumptions Underlying This Assessment

In the absence of definitive data or conclusive evidence, NMFS must make a logical series of assumptions to overcome the limits of the available information. These assumptions will be made using sound, scientific reasoning that can be logically derived from the available information. The progression of the reasoning will be stated for each assumption, and supporting evidence cited.

The potential adverse effects to listed species resulting from the proposed construction of the Mill Creek Bridge project and the implementation of the minimization measures are primarily associated with dewatering and placement of the rock slope protection. However, other potential impacts to California CV steelhead, spring-run Chinook salmon, and designated critical habitat include turbidity resulting from ground disturbance for areas associated with bridge construction and mitigation.

The information used in this assessment includes *Status of the Species* and *Environmental Baseline* sections of this biological opinion, studies and accounts of the impacts of construction activities on anadromous fish.

B. Effects Analysis

The proposed project includes actions that may adversely affect several life stages of listed fish species. Adverse effects to these species and their habitat may result from changes in water quality from construction activities and loss of riparian vegetation from construction activities. The project includes integrated design features to avoid and minimize these potential impacts.

Adult and juvenile CV spring-run Chinook salmon and California CV steelhead use the action area primarily as a migration corridor (see the *Status of the Listed Species and Critical Habitat* and *Environmental Baseline* sections). In-channel construction activities will occur from July 1 through August 31. The effects of construction activities as well as the exposure of each listed salmon and steelhead based on life stage to each activity is described further below.

1. Dewatering Activities and Fish Salvage

Approximately 0.46 acres of stream habitat will be dewatered. Dewatering is likely to strand and isolate juvenile fish. Implementation of a fish salvage operation within the closed cofferdams will reduce potential mortality associated with entrapment and subsequent dewatering of the dammed area. Any fish salvaged from the coffer dammed area will be relocated to the main stream channel.

Fish salvage operations will take place early in the day, prior to thermal warming. A qualified fisheries biologist will use seining and electrofishing methods to conduct the fish salvage. Fish caught in the seine will be immediately transferred to buckets containing oxygenated stream water and material such as twigs or leafy branches to provide cover. The buckets will also be shaded and will not be allowed in the sun. Captured fish from each seine haul will be released prior to another pass. If all fish cannot be captured using a seine then electrofishing will be used to capture the remaining individuals. Electrofishing efforts will begin with voltage, pulse width, and pulse rate set at minimum values needed to capture fish. Settings will be increased only to immobilize fish for capture. Fish immediately captured and netted will be placed in the same buckets used for seining. All captured fish will be released at least 100 feet downstream of the project.

There is potential for listed juvenile fish to be directly killed or injured as a result of the fish salvage. A low mortality rate (expected to be less than 10 percent if consistent with the results of fish handling in similar fish salvage efforts) is expected from capturing and handling. Fish that are captured and released may temporarily become startled or stressed.

2. Impacts to Critical Habitat

RSP and Removal of Riparian Vegetation on Critical Habitat

Approximately 0.01 acres of salmonid habitat will be permanently impacted by placement of the RSP. Additional areas will be temporarily impacted by placement of temporary bridge abutments and K-rail to direct water into the diversion channel. The width and depth of the

stream channel will be altered by construction. Placement of RSP will narrow the channel by about five feet at the abutment and center pier. This is not expected to significantly affect depth or velocity of the creek.

Approximately 0.16 acres of montane riparian scrub and 0.36 acres of black cottonwood riparian forest will be temporarily impacted by construction. Riparian areas perform many beneficial functions for fish including providing shade to prevent elevated stream temperatures, contributing to the food supply, providing cover from predators and high flows, contributing large woody debris to the creek, and reducing sediment by reducing stream bank erosion. None of the vegetation to be temporarily impacted hangs over the creek to provide shade, but it does contribute food and stabilizes the stream bank. All disturbed riparian areas will have the vegetation cut at ground level to encourage re-sprouting. Impacted riparian areas that are outside of the active floodplain will be re-planted with riparian species.

3. Effects on Designated Critical Habitat Primary Constituent Elements (PCEs)

The basic premise to the conservation value of an overall critical habitat designation is the sum of the values of the components that comprise the habitat. For example, the conservation value of listed salmonid critical habitat is determined by the conservation value of the watersheds that make up the designated area. In turn, the conservation value of the components is the sum of the value of the PCEs that make up the area. PCEs are specific areas or functions, such as spawning or rearing habitat, that support different life history stages or requirements of the species. The conservation value of the PCE is the sum of the quantity, quality, and availability of the essential features of that PCE. Essential features are the specific processes, variables or elements that comprise a PCE. Thus, an example of a PCE will be spawning habitat and the essential features of that PCE are conditions such as clean spawning gravels, appropriate timing and duration of certain water temperatures, and water quality free of pollutants.

Therefore, reductions in the quantity, quality, or availability of one or more essential feature reduce the value of the PCE, which in turn reduces the function of the sub-area (*e.g.*, watersheds), which in turn reduces the function of the overall designation. In the strictest interpretation, reductions to any one essential feature or PCE will equate to a reduction in the value of the whole. However there are other considerations. We look to various factors to determine if the reduction in the value of an essential feature or PCE will affect higher levels of organization. For example:

- The timing, duration and magnitude of the reduction
- The permanent or temporary nature of the reduction
- Whether the essential feature or PCE is limiting (in the action area or across the designation) to the recovery of the species or supports a critical life stage in the recovery needs of the species (for example, juvenile survival is a limiting factor in recovery of the species and the habitat element supports juvenile survival).

In our assessment, we combine information about the contribution of constituent elements of critical habitat (or of the physical, chemical, or biotic phenomena that give the designated area value for the conservation of listed species) to the conservation value of those areas of critical

habitat that occur in the action area, given the physical, chemical, biotic, and ecological processes that produce and maintain those constituent elements in the action area. We use the conservation value of those areas of designated critical habitat that occur in the action area as our point of reference for this comparison. For example, if the critical habitat in the action area has limited current value or potential value for the conservation of listed species that limited value is our point of reference for our assessment of the consequences of the added effects of the proposed action on that conservation value.

a. Freshwater Migratory Corridor

Safe and unobstructed migratory pathways are necessary for adult salmonids to migrate to and from spawning habitats, and for larval and juveniles to migrate downstream from spawning and rearing habitats within freshwater rivers to rearing habitats within the estuaries.

The scour and rehabilitation to Mill Creek Bridge will not obstruct the migratory pathway for exposed fish. In addition, the water diversion channel will be temporary and will be designed to still allow fish passage during construction. Fish that use the action area as a migratory corridor will be able to continue using the channel during and after construction of the proposed action.

b. Freshwater Rearing Habitat

The project area of Mill Creek is composed of montane riparian scrub, montane black cottonwood riparian forest, wet montane meadow, and dry montane meadow. The riparian community occurs in a narrow strip along the stream and consists of black cottonwood (*Populus balsamifera* ssp. *trichocarpa*), white alder (*Alnus rhombifolia*) and willows (*Salix lucida* ssp. *lasiandra* and *Salix lucida* ssp. *landra*).

Freshwater riparian habitats support juvenile growth and mobility. In addition, riparian vegetation supports food communities for juveniles. Freshwater riparian habitat provide natural cover, such as shade, submerged and overhanging large wood, and aquatic vegetation to support refuge for juveniles from predators. Rearing habitat condition is strongly affected by habitat complexity, food supply, and presence of predators of juvenile salmonids. Freshwater rearing habitats have a high intrinsic value to salmonids, as the juvenile life stages are dependent on the function of this habitat for successful survival and recruitment.

Approximately 0.52 acres of riparian vegetation will be temporarily impacted by construction. The vegetation that will be temporarily impacted does not hang over the creek to provide shade; however, it does contribute to the food supply and stabilizes the stream bank. All disturbed riparian areas will have the vegetation cut at ground level to encourage re-sprouting. Impacted riparian areas that are outside of the active floodplain will be re-planted with riparian species. Removal of the existing vegetation will not exceed the minimum necessary to complete operations.

The remaining cobbles from the temporary abutments of the proposed Mill Creek Bridge project will be spread through the streambed. In addition, large woody debris that had been temporarily

stockpiled will be placed downstream of the highway bridge on dry gravel bars within the stream channel to enhance rearing habitat.

c. Summary of PCEs in the Action Area

The PCEs of critical habitat that will be adversely affected include freshwater rearing sites for juveniles and freshwater migration corridors for both juveniles and adults. Impacts to existing vegetation shall be avoided to the extent practicable. Up to 0.52 acres of riparian vegetation will be removed as a result of construction activities. The majority of these impacts are expected to be temporary due to the fact that all disturbed areas outside the actual footprint of the new bridge will be restored to their preconstruction conditions and any impacted riparian vegetation will be replaced with the planting of an appropriate assemblage of native riparian vegetation. These effects to the PCEs of critical habitat may result in a temporary redistribution of some individual fish, primarily rearing juvenile steelhead; however, due to the temporary nature of these effects.

In addition, the armoring and revetment of stream banks (in the form of RSP) tends to narrow rivers, creeks, and other similar waterways, reducing the amount of habitat per unit channel length (Sweeney *et al.* 2004). As a result of creek narrowing, benthic habitat decreases and the number of benthic aquatic macroinvertebrates per unit channel length decreases affecting salmonid food supply.

VI. CUMULATIVE EFFECTS

Cumulative effects include the effects of future state, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA.

Cumulative impacts can result from individually minor, but collectively substantial impacts taking place over a period of time. Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as agricultural development and the conversion to more intensive types of agricultural cultivation. These land use activities can degrade habitat species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators.

There are no specific plans for development within the action area of the proposed project. Therefore, further cumulative effects beyond those described above are not expected.

VII. INTEGRATION AND SYNTHESIS

This section integrates and adds the current conditions described in the status of the species and the environmental baseline for the action area with the effects of the proposed action and the cumulative effects of future actions. The purpose of this synthesis is to review the effects of the action in addition to the environmental baseline to understand how the action will affect the likelihood of the species' continued survival.

A. Summary of Status of the Species and Environmental Baseline

1. CV spring-run Chinook salmon

Historically, the majority of spring-run Chinook in the CV were produced in the Southern Sierra Nevada Diversity Group, which contains the San Joaquin River and its tributaries. All spring-run Chinook salmon populations in this diversity group have been extirpated (Lindley *et al.* 2007).

Lindley *et al.* (2007) determined that perhaps 15 of the 19 historical populations of spring-run Chinook salmon are extinct, with their entire historical spawning habitats behind various impassable dams. Those authors only considered Butte, Deer, and Mill creeks as watersheds with persistent populations of Chinook salmon known as spring-run, although they recognized that phenotypic spring-run Chinook salmon persist within the Feather River Hatchery population spawning in the Feather River downstream of Oroville Dam and in the Yuba River downstream of Englebright Dam. All of those population fall within the Northern Sierra Nevada diversity group. Butte and Deer creek spring-run Chinook salmon populations are at low risk of extinction, and the Mill Creek population is at either a moderate or low risk (Lindley *et al.* 2007). Viable CV spring-run Chinook salmon populations occur in only one of four diversity groups that historically contained them, and therefore fail the representation and redundancy rule for ESU viability (Lindley *et al.* 2007) Because the CV spring-run Chinook salmon ESU is spatially confined to relatively few remaining streams they continue to display broad fluctuations in abundance, and a large proportion of the population (*i.e.*, in Butte Creek) faces the risk of high mortality rates, the ESU remains at a moderate to high risk of extinction.

Past and present impacts within the Sacramento River basin have caused significant loss of habitat. Populations have declined drastically over the last century, and some subpopulations have been extirpated. The construction of dams has limited access to a large and significant portion of historical spawning and rearing. Dam operations have changed downstream flow patterns, effecting stream dynamics (*i.e.* geomorphology, habitat configuration, *etc.*), and affected available habitat through changes in water temperature characteristics, limiting gravel recruitment to available spawning reaches and limiting the introduction of large woody material which contributes to habitat diversity.

The value of the Mill Creek basin as a migratory corridor, and the presence of spawning and rearing habitat make it an important node of habitat for the survival and recovery of the species.

2. California CV steelhead

California CV steelhead historically were well-distributed throughout the Sacramento and San Joaquin rivers (Busby *et al.* 1996) and were found from the upper Sacramento and Pit river systems (now inaccessable due to Shasta and Keswick Dams) south to the Kings and possibly the Kern River systems, and in both east- and west-side Sacramento River tributaries (Yoshiyama *et al.* 1996). Lindley *et al.* (2006) estimated that historically there were at least 81 indpendant California CV steelhead populations distributed primarily throughout the eastern tributaries of

the Sacramento and San Joaquin rivers. This distribution has been greatly affected by dams (McEwan and Jackson 1996). Presently, impassable dams block access to 80 percent of historically available habitat, and block access to all historical spawning habitat for about 38 percent of historical populations (Lindley *et al.* 2006).

Existing wild steelhead stocks in the CV are mostly confined to the upper Sacramento River and its tributaries, including Antelope, Deer, and Mill creeks and the Yuba River. Populations may exist in Big Chico and Butte creeks and a few wild steelhead are produced in the American and Feather rivers (McEwan and Jackson 1996). Recent snorkel surveys (March to November 2008) indicate that steelhead are present in Clear Creek (Newton 2002). Because of the large resident *O. mykiss* population in Clear Creek, steelhead spawner abundance has not been estimated.

Spatial structure for steelhead is fragmented and reduced by elimination or significant reduction of the major core populations (*i.e.* Sacramento River, Feather River, American River) that provided a source for the numerous smaller tributary and intermittent stream populations like Dry Creek, Auburn Ravine, Yuba River, Deer Creek, Mill Creek, and Antelope Creek. Tributary populations can likely never achieve the size and variability of the core populations in the long-term, generally due to the size and available resources of the tributaries.

Lindley *et al.* (2007) indicated that prior population census estimates completed in the 1990s found the CV steelhead spawning population upstream of the RBDD had a fairly strong negative population growth rate and small population size. Good *et al.* (2005) indicated the decline was continuing as evidenced by new information (Chipps Island trawl data). California CV steelhead populations generally show a continuing decline, an overall low abundance, and fluctuating return rates. The future of California CV steelhead is uncertain due to limited data concerning their status. However, Lindley *et al.* (2007) concluded that there is sufficient evidence to suggest that the DPS is at moderate to high risk of extinction.

The value of the Mill Creek basin as a migratory corridor, and the presence of spawning and rearing habitat make it an important node of habitat for the survival and recovery of the species.

B. Summary of the Effects of the Proposed Action on Listed Species Likelihood of Survival and Recovery

Under the proposed Mill Creek Bridge project, adverse impacts to listed species stemming from dewatering activities are expected to occur. These impacts may cause physiological stress to the extent that the normal behavior patterns (*e.g.*, feeding, sheltering and migration) of affected individuals may be disrupted. These impacts are primarily low-level, short-term alterations of habitat conditions.

The project impacts will result in the exposure of a small percentage of juvenile California CV steelhead and CV spring-run Chinook salmon to construction activities. These adverse effects will affect a very small proportion of the standing population and will not appreciably reduce the likelihood of survival and recovery of the California CV steelhead and CV spring-run Chinook salmon. Given the low level of exposure expected to result from adherence to the limited seasonal and diurnal in-water work windows, the limited adverse response expected from the few

individuals of the Mill Creek population that are exposed to these adverse effects, and the relatively small contribution to juvenile production that the Mill Creek population provides to the overall population numbers for the California CV steelhead DPS and CV spring-run Chinook salmon ESU, it is expected that the effects of the proposed project, when considered in the context of the current baseline and likely future cumulative effects, will not appreciably reduce the likelihood of survival and recovery of the California CV steelhead DPS and CV spring-run Chinook salmon throughout their ranges.

C. Summary of Effects of the Proposed Action on Critical Habitat

The effects of the proposed Mill Creek Bridge project is expected to have minimal adverse effects upon the functionality and conservation value of the freshwater rearing and migratory corridors designated as critical habitat in Mill Creek. Impacts to the designated critical habitat within the action area that are related to the construction actions are temporary, lasting only as long as the bridge construction activities. The construction actions should never impede or prevent salmonid migration in the channel of Mill Creek due to numerous factors, including: timing of work and protective measures implemented to minimize impacts to the creek during construction (*i.e.*, BMPs and SWPPP). Temporary loss of foraging and rearing habitat is minimal, given the small footprint of the pile driving compared to the available habitat and replacement of riparian vegetation at onsite and offsite locations.

NMFS expects that nearly all of the adverse effects to critical habitat from this proposed project will be of a short-term nature and will not affect future generations of listed fish beyond the construction period of the project.

VIII. CONCLUSION

After reviewing the best available scientific and commercial information, the current status of the California CV steelhead and CV spring-run Chinook salmon and their designated critical habitat, the environmental baseline for the action area, the effects of the proposed Mill Creek Bridge project, and the cumulative effects, it is NMFS' biological opinion that the action, as proposed, is not likely to jeopardize the continued existence of the California CV steelhead or CV spring-run Chinook salmon, and is not likely to destroy or adversely modify designated critical habitat.

IX. INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and Federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by NMFS as an act which kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, 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 the purpose of the agency action is not considered to be prohibited taking under the ESA

provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by Caltrans, as appropriate, for the exemption in section 7(o)(2) to apply. Caltrans has a continuing duty to regulate the activity covered by this incidental take statement. If Caltrans (1) fails to assume and implement the terms and conditions or (2) fails to require any contractors to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to any contract, permit or grant documents, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, Caltrans must report the progress of the action and its impact on the species to NMFS as specified in the incidental take statement [50 CFR §402.14(i)(3)].

A. Amount or Extent of Take

NMFS cannot, using the best available information, quantify the anticipated incidental take of individual fish because of the variability and uncertainty associated with the population size of each species, annual variations in the timing of migration, and uncertainties regarding individual habitat use of the proposed project area. However, it is possible to designate ecological surrogates for the extent of take anticipated to be caused by the proposed project, and to monitor those surrogates to determine the level of take that is occurring. NMFS anticipates incidental take in the form of harm or mortality of juvenile CV spring-run Chinook salmon and California CV steelhead from impacts directly related to dewatering activities. The most appropriate ecological surrogates for the extent of incidental take on juvenile CV spring-run Chinook salmon and California CV steelhead resulting from seining and electrofishing, and turbidity caused by proposed project activities and the period of time of each impact. The following levels of incidental take from the proposed project activities are anticipated:

1. Take in the form of mortality of stranded juvenile California CV steelhead and CV spring-run Chinook salmon during the dewatering activities from July 1 to August 31. Take will be a small percentage of the relocated (salvaged) California CV steelhead and CV spring-run Chinook salmon juveniles. There is potential for listed juvenile fish to be directly killed or injured as a result of the fish salvage. A low mortality rate (expected to be less than 10 percent if consistent with the results of fish handling in similar fish salvage efforts) is expected from capturing and handling. Fish that are captured and released may temporarily become startled or stressed. Fish salvage operations should minimize the number of juveniles lost, but it is anticipated that some mortality may occur.

2. The analysis of the effects of the proposed project anticipates that take in the form of injury and death from predation will result from construction-related turbidity that will extend into areas along the length of Mill Creek. Specifically the shoreline that is a part of the proposed project action area and downstream until any increase in turbidity is unnoticed compared to baseline levels. The analysis of the effects of the proposed project anticipates that the turbidity levels produced will not exceed those permitted under the project SWPPP and that if turbidity levels approach or exceed the acceptable

criteria established by the CVWQCB, construction activities will be halted until turbidity levels return to within acceptable levels. Refer to the **Proposed Conservation Measures** section and Conservation Measure number 13 for specific NTU requirements.

B. Effect of Take

NMFS has determined that the level of take resulting from the construction of the proposed project is not likely to jeopardize the continued existence of California CV steelhead or the CV spring-run Chinook salmon, and is not likely to destroy or adversely modify designated critical habitat for California CV steelhead or CV spring-run Chinook salmon.

C. Reasonable and Prudent Measures

NMFS has determined that the following reasonable and prudent measures (RPMs) are necessary and appropriate to minimize the incidental take of listed California CV steelhead and CV spring-run Chinook salmon from the Mill Creek Bridge scour repair and deck rehabilitation project. These reasonable and prudent measures also will minimize adverse effects on designated critical habitat.

(1) Measures shall be taken to minimize incidental take of California CV steelhead and CV spring-run Chinook salmon during closure of cofferdams.

(2) Measures shall be taken to minimize incidental take of listed anadromous fish by restricting the in-water work to avoid vulnerable life stages.

(3) Measures shall be taken to minimize the effect of temporary habitat loss of riverine and riparian habitat.

(4) Caltrans shall report any incidence of take to NMFS.

(5) Measures shall be taken to validate that erosion, sediment, and turbidity controls and contingency measures are effective.

(6) Measures shall be taken to enhance salmonid juvenile rearing habitat in the proposed action area.

D. Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, Caltrans must comply with the following terms and conditions, which implement the RPMs described above and outline required reporting and monitoring requirements. These terms and conditions are non-discretionary:

(1) Measures shall be taken to minimize incidental take of California CV steelhead and CV spring-run Chinook salmon during closure of cofferdams.

Conditions: Fish salvage operations will take place early in the day, prior to thermal warming. A qualified fisheries biologist will use seining and electrofishing methods to conduct the fish salvage. Fish caught in the seine will be immediately transferred to buckets containing oxygenated stream water and material such as twigs or leafy branches to provide cover. The buckets will also be shaded and will not be allowed in the sun. Captured fish from each seine haul will be released prior to another pass. If all fish cannot be captured using a seine then electrofishing will be used to capture the remaining individuals. Electrofishing efforts will begin with voltage, pulse width, and pulse rate set at minimum values needed to capture fish. Settings will be increased only to immobilize fish for capture. Fish immediately captured and netted will be placed in the same buckets used for seining. All captured fish will be released at least 100 feet downstream of the project. Caltrans will include a report of the number of fish relocated throughout the duration of the project and submit it per the guidelines in Term and Condition (6) below.

(2) Measures shall be taken to minimize incidental take of listed anadromous fish by restricting the in-water work to avoid vulnerable life stages.

Conditions: Any construction work occurring in the channel will occur between July 1 and August 31. However, if the channel is dry prior to July 1, work can commence in the dry areas.

(3) Measures shall be taken to minimize the effect of temporary habitat loss of riverine and riparian habitat.

Conditions: To the extent possible, Caltrans will avoid disturbance to any riparian vegetation. However, any disturbed vegetation will be planted back with native riparian species, specifically willows and white alder. Any replanting will occur at a 3:1 ratio for all the trees lost or injured. All replantings shall be noted in the monitoring report that will be submitted to NMFS on December 31 of each construction season. Caltrans shall maintain all riparian plantings for five years, and provide replacement plantings as necessary to insure full and rapid recovery of disturbed riparian habitat features.

(4) Caltrans shall report any incidence of take to NMFS.

Conditions: Be reminded take includes all relocated fish. If a listed species is observed injured or killed by project activities, Caltrans shall contact NMFS within 48 hours at 650 Capitol Mall, Suite 5-100, Sacramento, CA, 95814, and via phone at (916) 930-3600. Submit a report to NMFS at the end of each month during every construction season detailing non-lethal and lethal forms of take (i.e. fish capture or mortality). Notification shall include species identification, the number of fish, and a description of the action that resulted in take. If possible, dead individuals shall be collected, placed in an airtight bag, and refrigerated with the aforementioned information until further direction is received from NMFS.

(5) Measures shall be taken to validate turbidity controls and contingency measures are effective.

Conditions: Caltrans shall obtain all appropriate permits through the CVWQCB and have on file an SWPPP. Caltrans shall follow the turbidity protocols described in the Proposed Conservation Measures of this biological opinion. Specifically conservation measure number 13.

(6) Measures shall be taken to enhance salmonid juvenile rearing habitat in the proposed action area.

Conditions: Habitat enhancement structures will be placed in Mill Creek to improve rearing habitat for juvenile salmonids. Locations for individual structures will be identified by CDFG and NMFS and the structures will be designed by Caltrans and approved by CDFG and NMFS. Habitat enhancements may include, but are not limited to, bank stabilization, addition of large woody debris, or placement of boulder clusters. All work will be within the in-stream construction window of July 1 to August 31.

Additionally, Caltrans shall maintain, monitor, and adaptively manage all conservation measures throughout the life of the project to ensure their effectiveness. For example, assurances shall be taken to ensure the success of revegetation efforts. Caltrans, for the purposes of agency review and approval, shall provide the finalized project plans to NMFS at least 14 days prior to implementation, which will include the following:

(1) Confirmation of in-water work window from July 1 to August 31;
(2) Use details for any chemically-treated substances that will be used during the instream construction window; and
(3) Compliance to SWPPP and other CVWQCB requirements.

Measures shall be taken to ensure the continued participation of Caltrans and its contractors for the duration of the proposed project.

Annual updates and reports required by these terms and conditions shall be submitted by December 31 of each year during the construction period to:

Supervisor
Central ValleyOffice
National Marine Fisheries Service
650 Capitol Mall, Suite 5-100
Sacramento CA 95814-4607
FAX: (916) 930-3629
Phone: (916) 930-3600

X. CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to

minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. For five years, Caltrans shall provide irrigation and fertilization as necessary to insure full and rapid recovery of disturbed riparian habitat features.

2. NMFS recommends that Caltrans incorporate concepts of bio-engineering into the RSP such as adding soil and planting willows in the RSP.

In order for NMFS to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, NMFS requests notification of the implementation of any conservation recommendations.

XI. REINITIATION NOTICE

This concludes formal consultation on the Mill Creek Bridge project. As provided in 50 CFR '402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded, (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion, (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion, or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, formal consultation shall be reinitiated immediately.

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Enclosure 2

Magnuson-Stevens Fishery Conservation and Management Act

ESSENTIAL FISH HABITAT CONSERVATION RECOMMENDATIONS

I. IDENTIFICATION OF ESSENTIAL FISH HABITAT

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended (16 U.S.C. § 1801 et seq.), requires that Essential Fish Habitat (EFH) be identified and described in Federal fishery management plans (FMPs). Federal action agencies must consult with NOAA's National Marine Fisheries Service (NMFS) on any activity which they fund, permit, or carry out that may adversely affect EFH. NMFS is required to provide EFH conservation and enhancement recommendations to the Federal action agencies.

EFH is defined as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. For the purpose of interpreting the definition of EFH, "waters" includes aquatic areas and their associated physical, chemical, and biological properties that are used by fish, and may include areas historically used by fish where appropriate; "substrate" includes sediment, hard bottom, structures underlying the waters, and associated biological communities; "necessary" means habitat required to support a sustainable fishery and a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers all habitat types used by a species throughout its life cycle. The action area of Mill Creek Bridge Scour Repair and Deck Rehabilitation on State Route 36 in Tehama County, California, is within the area identified as EFH for Pacific Coast Salmon species identified in Amendment 14 of the Pacific Salmon FMP [Pacific Fishery Management Council (PFMC) 1999].

PFMC (1999) has identified and described EFH, and has identified adverse impacts and recommended conservation measures for salmon in amendment 14 to the Pacific Coast Salmon FMP. Freshwater EFH for Pacific salmon in the California Central Valley (CV) includes waters currently or historically accessible to salmon within the CV ecosystem as described in Myers *et al.* (1998). Sacramento River winter-run Chinook salmon (*Oncorhynchus tshawytscha*), CV spring-run Chinook salmon (*O. tshawytscha*), and CV fall-/late fall-run Chinook salmon (*O. tshawytscha*) are species managed under the Pacific Coast Salmon FMP that occur in the CV.

The enclosed biological opinion (Enclosure 1) thoroughly addresses the species of Chinook salmon listed both under the Endangered Species Act (ESA) and the MSA which potentially will be affected by the proposed action. This includes the CV spring-run Chinook salmon. Therefore, this EFH consultation will concentrate primarily on the CV fall/late fall-run Chinook salmon which is covered under the MSA, although not listed under the ESA.

Historically, CV fall-run Chinook salmon generally spawned in the CV and lower foothill reaches up to an elevation of approximately 1,000 feet. Much of the historical fall-run spawning habitat was located downstream of existing dam sites and the run therefore was not as severely affected by water projects as other runs in the CV.

Although fall-run Chinook salmon abundance is relatively high, several factors continue to affect their habitat conditions in Mill Creek, including loss of fish to unscreened agricultural diversions and other agricultural practices, grazing, predation by non-native fish species, lack of rearing habitat, regulated river flows, and high water temperatures.

A. Life History and Habitat Requirements

General life history information for CV fall-/late fall-run Chinook salmon is summarized below. Further detailed information on Chinook salmon evolutionarily significant units (ESU) are available in the NMFS status review of Chinook salmon from Washington, Idaho, Oregon, and California (Myers *et al.* 1998), and the NMFS proposed rule for listing several ESUs of Chinook salmon (March 9, 1998, 63 FR 11482).

Central Valley fall-/late fall-run

Adult CV fall-run Chinook salmon enter the Sacramento River and San Joaquin River from July through December and spawn from October through December, while adult CV late fall-run Chinook salmon enter the Sacramento and San Joaquin Rivers from October to April and spawn from January to April [U.S. Fish and Wildlife Service (USFWS) 1998].

Chinook salmon will spawn in water that ranges from a few centimeters to several meters deep provided that there is suitable sub-gravel flow (Healey 1991). Spawning typically occurs in gravel beds that are located in marginally swift riffles, runs and pool tails with water depths exceeding one foot and velocities ranging from one to 3.5 feet per second. Preferred spawning substrate is clean loose gravel ranging from one to four inches in diameter with less that 5 percent fines (Reiser and Bjornn 1979).

Egg incubation occurs from October through March (Reynolds *et al.* 1993). Shortly after emergence from their gravel nests, most fry disperse downstream towards the Delta and into the San Francisco Bay and its estuarine waters (Kjelson *et al.* 1982). The remaining fry hide in the gravel or station in calm, shallow waters with bank cover such as tree roots, logs, and submerged or overhead vegetation. These juveniles feed and grow from January through mid-May, and emigrate to the Delta and estuary from mid-March through mid-June (Lister and Genoe 1970). As they grow, the juveniles associate with coarser substrates along the stream margin or farther from shore (Healey 1991). Along the emigration route, submerged and overhead cover in the form of rocks, aquatic and riparian vegetation, logs, and undercut banks provide habitat for food organisms, shade, and protect juveniles and smolts from predation.

II. PROPOSED ACTION

Caltrans proposes to correct scour and rehabilitate the bridge deck at the Mill Creek Bridge on State Route 36 in Tehama County, California, at Post Mile 91.46. The existing Mill Creek Bridge deck is a two-span, reinforced concrete girder structure with reinforced concrete abutments and a reinforced concrete pier wall, all on spread footings. The existing bridge deck is reinforced Portland cement concrete with an asphalt concrete surface measuring 70 feet long and 34 feet wide and exhibits signs of deterioration due to wear and weathering. The proposed

action is described in detail in the *Description of the Proposed Action* section of the preceding biological opinion (Enclosure 1).

III. EFFECTS OF THE PROPOSED ACTION

The effects of the proposed action on Pacific Coast salmon EFH would be similar to those discussed in the *Effects of the Proposed Action* section of the preceding biological opinion (Enclosure 1) for threatened CV spring-run Chinook salmon and threatened CV steelhead. A summary of the effects of the proposed action on CV fall-/late fall-run Chinook salmon and effects on Chinook salmon habitat are discussed below.

Effects to EFH stemming from construction activities that may contribute sediment and increase turbidity will be avoided or minimized by meeting Regional Water Quality Board objectives, Caltrans water pollution specifications, implementing applicable BMPs, staging equipment outside of the riparian corridor, limiting the amount of riparian vegetation removal, and replacing lost riparian vegetation at the project site.

Fuel spills or use of toxic compounds during project construction could release toxic contaminants into Mill Creek. Adherence to best management practices that dictate the use, containment, and cleanup of contaminants will minimize the risk of introducing such products to the waterway because the prevention and contingency measures will require frequent equipment checks to prevent leaks, will keep stockpiled materials away from the water, and will require that absorbent booms are kept on-site to prevent petroleum products from entering Mill Creek in the event of a spill or leak.

EFH will be adversely affected by the disturbance of up to 0.52 acres of riparian vegetation as a result of construction activities. The majority of these impacts are expected to be temporary, as all disturbed areas outside the actual footprint of the new bridge will be restored to preconstruction conditions and any areas of disturbed vegetation will be replanted with native riparian vegetation. Additionally, all disturbed riparian areas will have the vegetation cut at ground level to encourage re-sprouting.

These effects to EFH may result in a temporary redistribution of some individuals, primarily migrating and rearing juvenile salmonids, but, due to the temporary nature of these disturbances, the adverse effects that are anticipated to result from the proposed project are not of the type, duration, or magnitude that would be expected to adversely modify EFH to the extent that it could lead to an appreciable reduction in the function and conservation role of the affected habitat. NMFS expects that nearly all of the adverse effects to EFH from this project will be of a short term nature and will not affect future generations of Pacific salmon beyond the construction period of the project.

As discussed above, EFH protections apply to all ESUs of Pacific Chinook salmon, so the adverse operation effects that will impact the habitat occupied by spring-run Chinook salmon are also considered adverse effects on EFH. Those effects are thoroughly detailed in the biological opinion for the Mill Creek Bridge Scour Repair and Deck Rehabilitation Project (Enclosure 1).

The loss of riparian vegetation is an indirect effect of creating and maintaining access points to the creek. Riparian vegetation provides cover for aquatic habitat (shade) and a source of terrestrial macroinvertebrates (i.e. grasshoppers and ants) for juvenile salmonids. The loss of riparian vegetation can therefore increase predation rates and reduce feeding rates for juveniles.

Overall, the amount of riparian vegetation that would be lost is small. Therefore, NMFS expects that nearly all of the adverse effects to critical habitat from this project will be of a short-term nature and will not affect future generations of listed fish beyond the construction period of the project.

IV. CONCLUSION

Based on the best available information, and upon review of the effects of the Mill Creek Bridge project, NMFS believes that the construction and operation of the project features will have temporary adverse effects on EFH for Pacific salmon protected under MSA.

However, the proposed action includes adequate measures (described in the preceding biological opinion and the EFH conservation recommendations below) to avoid, minimize, or otherwise offset the adverse effects to EFH).

V. EFH CONSERVATION RECOMMENDATIONS

As the habitat requirements of CV fall-run Chinook salmon within the action area are similar to those of the federally listed species addressed in the enclosed biological opinion (Enclosure 1), NMFS recommends that all Terms and Conditions as well as all the Conservation Recommendations in the incidental take statement prepared for CV steelhead and CV spring-run Chinook salmon in the associated biological opinion, be adopted as EFH conservation recommendations. Those terms and conditions which require the submittal of reports and status updates can be disregarded for the purposes of this EFH consultation as there is no need to duplicate those submittals.

VI. ACTION AGENCY STATUTORY REQUIREMENTS

Section 305(b)(4)(B) of the MSA and Federal regulations (50 CFR § 600.920) to implement the EFH provisions of the MSA require Federal action agencies to provide a detailed written response to NMFS, within 30 days of its receipt, responding to the EFH conservation recommendations. The response must include a description of measures adopted by the Agency for avoiding, mitigating, or offsetting the impact of the project on Pacific salmon EFH. In the case of a response that is inconsistent with NMFS' recommendations, the Agency must explain their reasons for not following the recommendations, including the scientific justification for any disagreements with NMFS over the anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate, or offset such effects (50 CFR 600.920(k)).

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MATERIALS INFORMATION

(***NOT A PART OF THE CONTRACT***)

FINAL HYDRAULIC REPORT FOR MILL CREEK BRIDGE NO. 08-0133
DATED APRIL 22, 2010

DIVISION OF STRUCTURES
Final Hydraulic Report

Mill Creek Bridge

Located in Tehama County

JOB:
Bridge No. 08-0133 Scour Mitigation

LOCATION:
02-Teh-036-91.46

DATE:
April 22, 2010

WRITTEN BY:
Neal Alie

REVIEWED BY:
Juan Jauregui

Hydrology/Hydraulic Report for Interim Scour Repair

General

The Mill Creek Bridge, (Br. No. 08-0133) is located on State Route 36 in Tehama County. The Bridge was constructed in 1966 and is approximately 70.0 feet long and 34.0 feet wide. Its original construction was a continuous RC (4) girder spans on RC wall pier and RC strutted abutments, all on spread footings.

On July 22 2003, The Bridge's scour potential was assessed in accordance with FHWA Technical Advisory T5140.23, "Evaluating Scour at Bridges", and within current Caltrans guidelines. The bridge was determined to be scour critical. The item 113 code is 3, "Bridge foundations determined to be unstable for calculated scour conditions, scour below spread-footing base or piles".

It is proposed to repair the scour at Abutment 1, Pier 2 and Abutment 3 at Mill Creek by placing riprap as an interim counter measure.

This report makes extensive reference to the (1) Caltrans Bridge Maintenance Reports, (2) General plans and profiles submitted by structures, (3) Caltrans As-Built Plans (4) Hydrology/Hydraulics Report, Structure Hydraulics, December 1, 2009.

All elevations indicated in this report are referenced to the General Plans Submitted by Design.

Drainage Basin

Mill Creek drains a watershed of approximately 20.0 miles. It originates in the Lassen National Forest at approximately elevation 5600 feet at the confluence of Sulphur and East Sulphur Creek. The creek flows south from its origin and approximately 1.0 mile upstream of State Route 36 the creek splits into an east and west branch approximately 300 feet apart sharing the same floodplain. The two branches merge back together approximately 250 feet downstream of the State Route 36 Bridge and continue flowing southwest to its confluence with the Sacramento River, immediately downstream of State Route 99.

The west branch of Mill Creek is Br. No. 08-0133 and the east branch also on State Route 36 is Br. No. 08-0060. Historically the main channel of Mill Creek was actually the east branch flowing under Br. No. 08-0060, but after some major storm events in 1997, the main channel shifted towards the west branch, Br. No. 08-0133.

During low flow times water flows in each branch of Mill Creek separately, but during high flows water overtops its banks and water flows between both branches in the floodplain.

The mean annual precipitation for this area is 53 inches.

Discharge

The Watershed Modeling System, "WMS" program in conjunction with the National Flood Frequency Equation, "NFF" was used to calculate a 50-year and the 100-year discharge of **2900 cubic feet per second** and **4000 cubic feet per second**, respectively for Mill Creek.

For this interim scour counter measure application, the 100-year frequency of **4000 cubic feet per second** will be assumed and used to design the adequate rock size.

Stage

A historical water surface elevation of **4827.0 feet** was noted on the general plans dated April 18, 1966 of the as-builts for the Mill Creek River Bridge.

The Hydraulic Program (BrEase) version 2.3 was used to perform a one-dimensional hydraulic analysis to calculate the water surface elevation (WSEL) and velocity at the bridge location. The average velocity and the stage for the 50-year and 100-year discharges at the upstream face of the bridge are given below. The results are based on a roughness coefficient of 0.04 and a gradient of 0.0121.

	WSEL	Average Velocity	Available Freeboard
50-year Design Flood 2900 cfs	4828.5 ft	10.4 fps	**1.4 ft**
100-year Base Flood 4000 cfs	4829.3 ft	12.0 fps	**0.5 ft**

The bridge would be able to pass both a 50-year and 100-year event but will not have the required 2-foot freeboard over the 50-year Discharge.

Velocity

With a river slope of 0.0121 and a Manning's Roughness coefficient of 0.04 the average velocity through the bridge during a 100-year discharge is **12.0 feet per second** and the maximum velocity is **14.3 feet per second**.

For this interim scour counter measure application a velocity of **12.0 feet per second** will be assumed and used to design the adequate rock size.

Streambed and Scour

At the site the streambed is composed of sand, gravel and cobbles which are highly susceptible to scour. Mill Creek is in a valley setting with a fairly steep gradient, and meandering characteristics with lateral instability. There has been bank erosion upstream and downstream of the Abutments.

According to the Caltrans Bridge Maintenance Records there has been a history of erosion at both Abutments. In 1970 there was erosion at the right wing wall and face of Abutment 3. In January of 1997 a major storm event caused further erosion at Abutment 3 and caused the roadway approaches between Br. No. 08-0133 and Br. No. 08-0066 to act as a dam with the flows reaching the top of the roadway. That's when Mill Creek changed its course of flow from flowing under Br. No. 08-0060 further east to its present flow path under Br. No. 08-0133. Riprap was placed on several occasions at both abutments but was displaced throughout the years due to high velocities. There is no documentation of any riprap being placed at Pier 2.

Channel cross section data for 1965, 1976, 2003 and 2006 were plotted at the bridge location. Based on these plots it appears the bridge suffers from contraction and local pier scour.

A scour analysis was performed and the local pier scour at Pier 2 was calculated to be 4.5 feet. The contraction scour was calculated to be 2.75 feet for a total scour of **7.25 feet**. The thalwag, (lowest elevation) of the stream is at elevation 4822.50 feet, the resulting scour elevation is **4815.25 feet**, which is 4.58 feet below the bridge footings.

In July 2003, The Bridge's scour potential was assessed in accordance with FHWA Technical Advisory T5140.23, "Evaluating Scour at Bridges", and within current Caltrans guidelines. The bridge was determined to be scour critical. The NBIS code 113 was changed to 3, "Bridge foundations determined to be unstable for calculated scour conditions, scour below spread-footing base or piles".

Drift

Mill Creek River carries a large quantity of drift including trees with their roots and branches. According to the Caltrans Bridge Maintenance Reports there is a history of drift problems collecting at Piers 2 and the abutments.

Waterway

The proposed interim scour countermeasure involving riprap to protect this bridge will not significantly reduce the waterway at the bridge crossing.

Bank Protection

Bank protection was placed at the wing walls of the Abutments on several occasions but appears to have been displaced due to high velocities.

Rock Slope Protection (RSP)

The FHWA Hydraulic Engineering Circular 23, Volume 2, 3rd edition was used to determine a minimum rock size of 2 Ton Riprap for this interim countermeasure until a more permanent solution is designed. The Caltrans Highway design Manual, Section 870 was used to install the riprap using Method B to armor the streambed of this section. (Please review attached schematics indicating limits of the riprap design).

Due to Environmental, scour and construction constraints it was necessary to vary from the recommended FHWA, HEC-23 Circular and Caltrans Highway design Manual standard design procedures for rock size and placement. The following changes were made:

1. No filter fabric was used; instead a 2-foot layer of a mixture of Backing No. 1 and 3 material was used. This was due to environmental concerns.

2. Only one layer of (2.0 ft thickness) of Backing No.1 and 3 mixed together will be used, vs. the recommended separate layer Backing No. 1 and Backing No. 3 for a total (2.55 foot thickness). This was to reduce the total thickness of the countermeasure to avoid further excavating.

3. Although our calculations showed a D50 of 5557 lb we decided to scale down to 2 Ton Riprap to avoid an increase in the riprap thickness avoiding further

excavation and avoiding mounting the riprap over the top of the footings.

Method A rock placement should be used placing a 5.5 feet layer of 2-Ton riprap on top of a layer of 2.0 feet of mixed Backing No. 1 and 3 materials in a pre-excavated hole around Abutment 1, 3 and Pier 2. (See attached details for extent of riprap).

Upon repairing the existing Mill Creek Bridge by placing riprap, the Area Bridge Maintenance Engineer (ABME) will be asked to focus attention on the stability of the interim scour counter measure on a biennial routine inspection and after major storm events. Monitoring the countermeasure stability at the site along with routine inspections should provide safe access across the bridge to the traveling public until the bridge can be replaced or a more permanent solution can be designed in the near future.

Summary Information for the Bridge Designer

HYDROLOGIC SUMMARY FOR MILL CREEK Br. No. 08-0133			
Drainage Area: 20.0 sqmi			
	Design Flood	**Base Flood**	**Overtopping Flood/Flood of Record?**
Frequency	50-yr	100-yr	N/A
Discharge	2900 cfs	4000 cfs	N/A
Water Surface Elevation at Bridge	4828.5 ft	4829.3 ft	N/A
Flood plain data are based upon information available when the plans were prepared and are shown to meet federal requirements. The accuracy of said information is not warranted by the State and interested or affected parties should make their own investigation.			

Mill Creek
Br. No. 08-0133
02-Teh-036-91.46
EA 02-2C2201

This report has been prepared under my direction as the professional engineer in responsible charge of the work, in accordance with the provisions of the professional Engineers Act of the State of California.

REGISTERED CIVIL ENGINEER (SIGNATURE)

REGISTRATION NUMBER: C056398 DATE: 4/21/10

Mill Creek Scour Mitigation
RSP Quantities

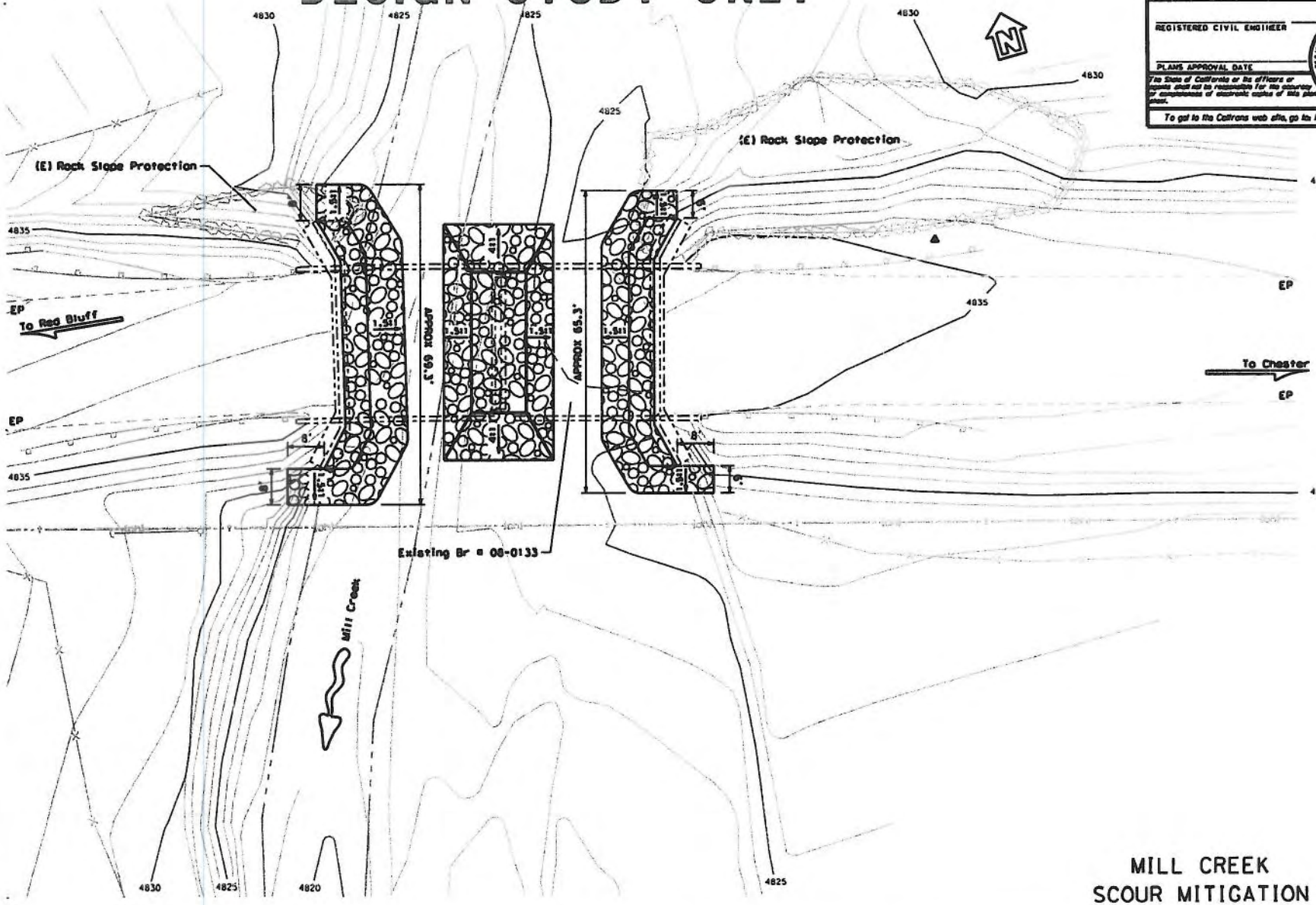
Bridge No:	08-0133
Prepared by:	J. Jauregui
Date:	1/29/2010

Location	Area of RSP Mat * (ft^2)
Abutment 1	1024
Pier 2	1216
Abutment 3	824
Total	**3064**

* Note: Area determined using Microstation

RSP Mat	Thickness (ft)	Volume (ft^2)	Volume (yd^3)
2 Ton RSP	5.5	16,852	**624**
Backing #1	1	3,064	**113**
Backing #3	1	3,064	**113**
Total Thickness	7.5		

DESIGN STUDY ONLY



MILL CREEK
SCOUR MITIGATION

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To get to the Caltrans web site, go to http://www.dot.ca.gov

DATE	REVISED BY	DATE REVISED

CALCULATED/DESIGNED BY

CHECKED BY

PROJECT ENGINEER

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => USER
DGN FILE => MRDLOGO

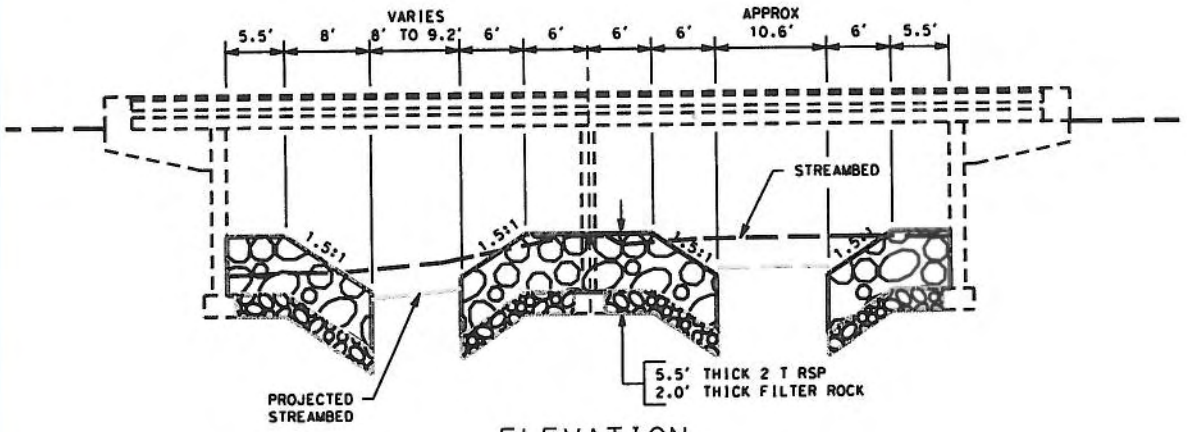
CU 00000

EA 000000

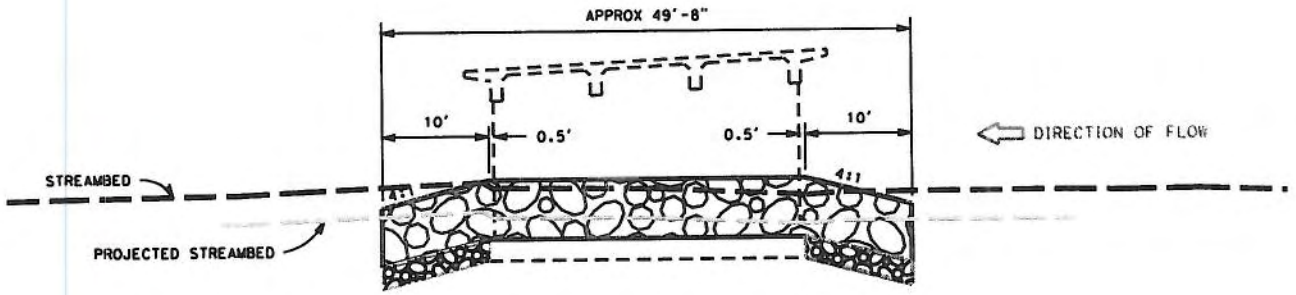
DATE PLOTTED => 00-00-00
TIME PLOTTED => 0TIME

MillCk_Alt 3B.dgn 2/25/2010 2:33:43 PM

MILL CREEK SCOUR MITIGATION



ELEVATION



TYPICAL SECTION

MillCk_Alt 3B.dgn 2/25/2010 2:33:55 PM

MATERIALS INFORMATION

(***NOT A PART OF THE CONTRACT***)

MILL CREEK NATIVE STREAMBED MATERIAL GRADING ANALYSIS

ATTACH FORM DCR-TL-101 HERE

Cali
1973

TEST NO. **D75146R**

DATE RECEIVED 10/1/12

CALC. BY MB, NR APPROVED BY WJ

DATE REPORTED 10/3/12, 10/5/12

BILLED

☐ DISTRICT DIRECTOR ☐ TRANS. LAB
☐ DIS. MATLS. ENGR. ☐ PAVT. SECTION
☐ RESIDENT ENGINEER ☐ ACCOUNTING
☐ CONSTRUCTION ☒ ADME

GRADING ANALYSIS

SIEVE	AS RECEIVED	RET. CR.	ADJ. OR COMB. GRADE	AS USED	SPECIF. LIMITS ☐ SOUGHT ☐
3					
2½					
2					
1½	100.				-
1	75				-
¾	71				-
½	65				-
⅜	61				-
4	52				-
8	45				-
16	36				-
30	25				-
50	14				-
100	6				-
200	3.5				-
5μ					
1μ					

GRADING AS USED WAS OBTAINED AS FOLLOWS:

% BY WT.	% BY VOL.	TEST NO.	DESCRIPTION

REMARKS:

SURFACE

BASE

SUBBASE

GRAVEL EQUIVALENT FACTOR

TRAFFIC INDEX

R VALUE: EXUDATION PRESSURE

EXPANSION PRESSURE

AT EQUILIBRIUM SPEC.

INDICATED MINIMUM THICKNESS OF COVER FOR ABOVE CONDITIONS (FEET)

REPORT OF TESTS ON

NATIVE STREAMBED MATERIAL

IF CONTRACT, USE CONTRACT ITEM

SOURCE	CHARGE	EXPENDITURE AUTHORIZATION
	02	2C2251

SPECIAL DESIGNATION (USE WHEN APPLICABLE) | ACTIVITY OR OBJECT | AMOUNT

		A	B	C	D	E
TEST SPECIMEN	1					
DATE TESTED	2					
COMPACTOR AIR PRESSURE P.S.I.	3					
INITIAL MOISTURE %	4					
SOAK WATER ML	5					
WATER ADDED—ML (TOTAL)	6					
WATER ADDED %	7					
MOISTURE AT COMPACTION %	8					
WET WT. OF BRIQUETTE—GMS	9					
HEIGHT OF BRIQUETTE—INCHES	10					
DRY DENSITY OF BRIQ. #/CU.FT.	11					
STABILOMETER P_H AT 2000 LBS.	12					
DISPLACEMENT	13					
R-VALUE BY EXUDATION	14					
EXUDATION PRES. P.S.I.	15					
THICK. BY STAB. FEET	16					
EXPANSION DIAL READING	17					
THICK. BY EXP. PRESS. FEET	18					
R-VALUE BY EXPANSION	19					

TEST RESULTS

		SPEC.
LL. N/A P.L. NP P.I. NP		-
CV		
S.E.	AS REC'D. 59	-
	CRUSHED	
	COMBINED	
LART	GRADE 100 REV.	
	GRADE 500 REV.	
DUR.	D_f	
	D_r	
% CRUSHED PARTICLES		

SP. GR.	FINE	COARSE
AS REC'D.		
CRUSHED		
TYPE		

REL. COMPACTION DATA

	IN PLACE	OPTIMUM
DENSITY		
MOISTURE		
% REL. COMP.		
SPEC.		

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

SAMPLE IDENTIFICATION CARD

TL-0101 (REV. 10/97)

CARD NUMBER C 855416

☐ PRELIMINARY TESTS
☐ PROCESS TESTS
☐ ACCEPTANCE TESTS

INDEPENDENT ASSURANCE TESTS
☐ DIST. LAB
☐ TRANS. LAB
☐ SPECIAL TESTS

SAMPLE SENT TO:
☐ HDQTRS. LAB
☐ BRANCH LAB
☐ DIST. LAB

FIELD NO. ~~D75146~~ D75146

LOT NO.

SHIPMENT NO. | P.O. OR REQ. NO.

AUTHORIZATION NO.

SAMPLE OF Stream bed Native

FOR USE IN

SAMPLE FROM Stream bed PM 91.417

DEPTH 1'

LOCATION OF SOURCE Mill Creek

THIS SAMPLE IS SHIPPED IN (NO. CONTAINERS) 2 | AND IS ONE OF A GROUP OF 1 | SAMPLES REPRESENTING (TONS, GALS, BBLS, STA. ETC.)

OWNER OR MANUFACTURER

TOTAL QUANTITY AVAILABLE | TEST RESULTS DESIRED ☒ NORMAL ☐ PRIORITY | DATE NEEDED

REMARKS

Grading, SE, PI

COVER ADDITIONAL INFORMATION WITH LETTER

DATE SAMPLED 9-28-12

BY Matt Birkland | TITLE Tester

DIST. CO. RTE. PM 02, TEH, 36, 91.417

LIMITS

CONT. NO. 02-2C225

FED. NO.

RES. ENGR. OR SUPT. Joel Gasik

ADDRESS

CONTRACTOR

MAIL TO SAME DESTINATION AS SAMPLE

TL-361 (Rev. 5/75)

FIGURE 12