

FOR CONTRACT NO.: 02-2C2214

INFORMATION HANDOUT

WATER QUALITY

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

PERMITS

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

AGREEMENTS

CALIFORNIA DEPARTMENT OF FISH AND GAME
NOTIFICATION NO.1600-2010-0058-R1

MATERIALS INFORMATION

FOUNDATION RECOMMENDATION

ADDENDUM TO FOUNDATION RECOMMENDATION

HYDROLOGY & HYDRAULICS REPORT

ROUTE: 02-Mod-299-3.3



California Regional Water Quality Control Board Central Valley Region

Katherine Hart, Chair



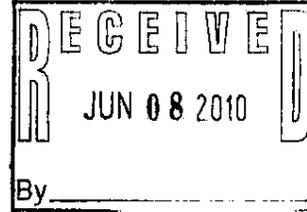
Arnold
Schwarzenegger
Governor

Linda S. Adams
Secretary for
Environmental
Protection

415 Knollcrest Drive, Suite 100, Redding, California 96002
(530) 224-4845 • Fax (530) 224-4857

3 June 2010

Mr. Eric Orr
California Department of Transportation
P.O. Box 496073
Redding, CA 96049-6073



CLEAN WATER ACT §401 TECHNICALLY CONDITIONED WATER QUALITY CERTIFICATION AND WASTE DISCHARGE REQUIREMENTS FOR DISCHARGE OF DREDGED AND/OR FILL MATERIALS; NORTH FORK ASH CREEK BRIDGE REPLACEMENT PROJECT (WDID#5A25CR00039), ADIN, MODOC 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. This certification is no longer valid if the project (as currently described) is modified, or coverage under Section 404 of the Clean Water Act has expired.

ADDITIONAL TECHNICALLY CONDITIONED CERTIFICATION CONDITIONS:

In addition to the four standard conditions, The California Department of Transportation shall satisfy the following:

1. The California Department of Transportation shall notify the Central Valley Water Quality Control Board (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. The California Department of Transportation 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. The California Department of Transportation 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. The California Department of Transportation shall notify the Central Valley Water Board immediately of any spill of petroleum products or other organic or earthen materials.
11. The California Department of Transportation shall notify the Central Valley Water Board immediately if the above criteria for turbidity, settleable matter, oil/grease, or foam are exceeded.
12. The California Department of Transportation shall comply with all California Department of Fish and Game 1600 requirements for the project.
13. The California Department of Transportation shall comply with their Statewide Storm Water NPDES Permit (Order No 99-06-DWQ) 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 the California Department of Transportation 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, 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 the California Department of Transportation 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. The California Department of Transportation 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.

16. The California Department of Transportation shall provide a Notice of Completion (NOC) no later than 30 days after the project completion. The NOC shall demonstrate that the project has been carried out in accordance with the project's description (and any amendments approved). The NOC shall include a map of the project location and representative pre and post construction photographs.

REGIONAL WATER QUALITY CONTROL BOARD CONTACT PERSON:

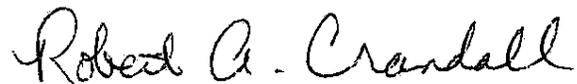
Dannas J. Berchtold, Engineering Associate, Redding Branch Office, 415 Knollcrest Drive, Suite 100, Redding, California 96002, dberchtold@waterboards.ca.gov, (530) 224-4783

WATER QUALITY CERTIFICATION:

I hereby issue an order certifying that any discharge from the California Department of Transportation, North Fork Ash Creek Bridge Replacement Project (WDID# 5A25CR00039) 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. 2008-0182 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 the California Department of Transportation's project description and the

attached Project Information Sheet, and (b) compliance with all applicable requirements of the Central Valley Water Board's Water Quality Control Plan (Basin Plan).



(for) PAMELA C. CREEDON
Executive Officer

DJB: lm

Enclosure: Project Information

cc: Mr. Matt Kelley, U.S. Army Corp of Engineers, Redding
U.S. Fish and Wildlife Service, Sacramento
Ms. Donna Cobb, Department of Fish and Game, Region 1, Redding
Mr. Bill Jennings, CALSPA, Stockton
Ms. Amber Kelley, Caltrans, P.O. Box 496073, Redding 96049-6073

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

PROJECT INFORMATION

Application Date: 17 March 2010

Applicant: California Department of Transportation, Attn: Eric Orr

Applicant Representatives: California Department of Transportation, Attn: Amber Kelley

Project Name: North Fork Ash Creek Bridge Replacement Project

Application Number: WDID No. 5A25CR00039

Type of Project: Bridge removal and replacement

Project Location: The project is located approximately 2.2 miles northeast of the town of Adin on State Route 299, in Modoc County, Section 15, Township 39 North, Range 9 East, MDB&M. Latitude: 41°13'34" and Longitude: -120°55'22"

County: Modoc County

Receiving Water(s) (hydrologic unit): North Fork Ash Creek, a tributary of Pit River, Pit River Hydrologic Unit #526.64, Upper Ash Creek HSA.

Water Body Type: 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); Industrial Supply (IND), Hydropower Generation (POW); Groundwater Recharge, Water Contact Recreation (REC-1); Non-Contact Water Recreation (REC-2); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD); and Wildlife Habitat (WILD).

Project Description (purpose/goal): The North Fork Ash Creek Bridge Replacement Project consists of the removal and replacement of the existing single span structure, reconstruction and widening of the roadway approach, placement of metal beam guardrail, and relocation of a private driveway connection. The structure length of the bridge will increase from 24' to 46', and the width will increase from 32' to 40'. The bridge will be reconstructed in stages, and work will be completed one lane at a time. A temporary clear water diversion will be installed to remove any standing water prior to construction. A temporary gravel pad will be placed in the channel, and false work constructed under the bridge. Existing bridge deck, barriers and retaining walls will be removed. New abutments, false work, bridge deck, and railings will be installed. The joints will be sealed and a polyester concrete overlay will be placed. Once completed, the work will be repeated on the second half of the bridge. Project implementation will temporarily impact 0.039 acres (187 linear feet) of un-vegetated streambed.

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

Proposed Mitigation to Address Concerns: The California Department of Transportation 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. The impacted area will be seeded with native plant species, and willow cuttings will be planted along the disturbed stream banks. The California Department of Transportation 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: 20 cubic yards of clean, washed gravel will be placed in the channel temporarily. The gravel will be removed after construction.

Dredge Volume: None

U.S. Army Corps of Engineers Permit Number: Non-reporting Nationwide Permit No. 14 (Linear Transportation Projects)

Central Valley Water Board Public Notice: Information regarding this project was noticed on the Central Valley Water Board's website from 19 March 2010 to 9 April 2010. No comments were received.

Department of Fish and Game Streambed Alteration Agreement: The California Department of Transportation applied for a Streambed Alteration Agreement on 15 March 2010.

Possible Listed Species: The project area was surveyed for the presence of special status animal and plant species. Based on the study no special status species were found within the project limits.

Status of CEQA Compliance: The California Department of Transportation signed a Notice of Exception for this project on 11 February 2010 approving a Categorical Exemption, pursuant Class 2, 14 CCR 153000 et seq. of the Public Resource Code 21084, stating the project will not have a significant effect on the environment.

Compensatory Mitigation: The California Department of Transportation must comply with the U.S. Army Corps of Engineers' requirements for compensatory mitigation for the impacts to jurisdictional waters if required.

Application Fee Provided: Total fees of \$640.00 have been submitted to the Central Valley Water Board as required by 23 CCR §3833b(3)(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.

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 or 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

Memorandum

*Flex your power!
Be energy efficient!*

To: MEMO TO FILE

Date: March 9, 2010

File: 02-MOD-299
PM 3.27/3.51
003 172 02-2C2210
North Fork Ash Creek
Bridge Replacement

From: **DEPARTMENT OF TRANSPORTATION – District 2**
Amber Kelley – Environmental Coordinator – Lassen County
Office of Environmental Management

Subject: United States Nationwide Permit 14, Non-Reporting (Linear Transportation Projects)

The California Department of Transportation (Caltrans) is proposing a bridge replacement project on State Route 299 at Post Mile (PM) 3.27/3.51 in Modoc County, approximately 3.0 miles east of the community of Adin, California. The project will be constructed in accordance with the terms and conditions of United States Army Corps Nationwide Permit 14 (Linear Transportation Projects). A Nationwide Permit Pre-Construction Notification (PCN) form and relevant project information are attached. The project will not result in a loss of waters of the United States greater than 0.10 acre, and the project does not create a use differing from what is currently existing at this location. No permanent fills are proposed.

The existing single span bridge is eighty-six years old and requires replacement due to deterioration. The project proposes to remove and replace the existing structure, widen the roadway approach, place new metal beam guardrail, and relocate a private driveway. The bridge will be constructed in stages, and work will be completed one lane at a time. To conform to current design standards, the new bridge will have an increased structure length: existing length 24 feet, new length 46 feet. The width will also increase from 32 feet to 40 feet.

Water does not flow under the bridge during the summer months; however, a temporary clear water diversion will be required to remove any standing water. A temporary gravel pad will be placed in the channel. Approximately 20 cubic yards of clean, washed gravel will be used. When the temporary gravel pad is placed, false-work will be constructed under the bridge. The existing bridge deck, barriers, and retaining walls will be removed. Then new abutments, false-work, bridge deck and railings will be installed. The joints will be sealed and a polyester concrete overlay will be placed.

North Fork Ash Creek is an intermittent tributary to Ash Creek, which flows into the Pit River, and then to Shasta Lake. The project is located in the Upper Pit River watershed. A wetland delineation was conducted, and no wetlands were found to exist within the

environmental study limits. The area has been surveyed for potential special status animal and plant species, and no species or habitats were found within the project vicinity.

The project will have a temporary impact to 0.039 acres (187 lf) of jurisdictional “other” waters. No permanent fill or energy dissipation materials are proposed.

The project will have a temporary impact to 0.0413 acre of riparian vegetation (Modoc Great Basin Scrub). Permanent impacts include 0.0012 acre (53 sq ft) of riparian vegetation (Modoc Great Basin Scrub).

Impacts will be restored by replacing the native stream bed material (duff) in the channel and re-grading to the pre-project elevations. The area will then be seeded with an appropriate native plant species, and willow cuttings will be planted along the disturbed stream bank. The excavation of the channel and increased span between bridge abutments will restore 0.023 acres of floodplain habitat in this section of North Fork Ash Creek.

Construction is scheduled to begin in the summer 2011 and end by the fall of 2013. Work is anticipated to take 172 working days. Construction will occur during the low-flow, no-flow period. All work will be confined to the State highway right-of-way, and traffic will remain on the existing travel way. Staging will occur within the project limits, in the private driveway just west of the bridge.

After conducting an environmental evaluation for biological and cultural resources, Caltrans has determined that the proposed action is Categorical Exempt pursuant to Section 15301 of the California Environmental Quality Act, and Categorical Excluded under 23 CFR 771.117.

A Water Quality Certification (401) application has been submitted to the California Water Quality Control Board, and a 1602 Streambed Alteration Agreement application has been submitted to the California Department of Fish & Game.

Attached to this memo are the following:

- Nationwide Permit Pre-Construction Notification (PCN) form
- Project Vicinity Map
- Project Location Map
- Project Plan Sheets
- Categorical Exemption/Categorical Exclusion
- Natural Environmental Study
- Cultural Resource Assessment Memo
- Section 401 Water Quality Certification Application
- 1602 Streambed Alteration Notification

U.S. Army Corps of Engineers South Pacific Division

Nationwide Permit Pre-Construction Notification (PCN) Form

This form integrates requirements of the Nationwide Permit Program within SPD, including General and Regional Conditions. Please consult instructions prior to completing this form.

Box 1 Project Name North Fork Ash Creek Bridge Replacement			
Applicant Name Eric Orr		Applicant Title Project Manager	
Applicant Company, Agency, etc. California Department of Transportation		Applicant's internal tracking number (if any) 02-2C2210	
Mailing Address PO Box 496073 Redding, CA 96049-6073			
Work Phone with area code 530-225-3439	Home Phone with area code	Fax # with area code 530-225-3019	E-mail Address eric.orr@dot.ca.gov
Relationship of applicant to property: <input checked="" type="checkbox"/> Owner <input type="checkbox"/> Purchaser <input type="checkbox"/> Lessee <input type="checkbox"/> Other:			
Application is hereby made for verification that subject regulated activities associated with subject project qualify for authorization under a Corps nationwide permit or permits as described herein. I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief, such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities. I hereby grant to the agency to which this application is made, the right to enter the above-described location to inspect the proposed, in-progress or completed work. I agree to start work <u>only</u> after all necessary permits have been received.			
Signature of applicant			Date (m/d/yyyy)

Box 2 Authorized Agent/Operator Name <i>(If an agent is acting for the applicant during the permit process)</i> Amber Kelley			
Agent/Operator Title Assoc. Environmental Planner		Agent/Operator Company, Agency, etc. California Department of Transportation	
Mailing Address PO BOX 496073 REDDING, CA 96049-6073			
Work Phone with area code 530-225-3510	Home Phone with area code	Fax # with area code 530-225-3019	E-mail Address amber.kelley@dot.ca.gov
I hereby authorize the above named authorized agent to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application. I understand that I am bound by the actions of my agent and I understand that if a federal or state permit is issued, I, or my agent, must sign the permit.			
Signature of applicant			Date (m/d/yyyy)
I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief, such information is true, complete, and accurate.			
Signature of authorized agent			Date (m/d/yyyy)

Box 3 Name of Property Owner(s), if other than Applicant:	
Owner Title	Owner Company, Agency, etc.
Mailing Address	
Work Phone with area code	Home Phone with area code

Box 4 Name of Contractor(s) (if known):	
TO BE DETERMINED	
Contractor Title	Contractor Company, Agency, etc.
Mailing Address	
Work Phone with area code	Home Phone with area code

Box 5 Site Number <u>1</u> of <u>1</u>. Project location(s), including street address, city, county, state, zip code where proposed activity will occur:	
STATE ROUTE 299, IN MODOC COUNTY, POSTMILE 3.27/3.51. 2.5 MILES EAST OF THE COMMUNITY OF ADIN.	
Waterbody (if known, otherwise enter "an unnamed tributary to"): North Fork Ash Creek	
Tributary to what known, downstream waterbody: Ash Creek	
Latitude & Longitude (D/M/S, DD, or UTM): 41.2262, -120.9229	Zoning Designation (no codes or abbreviations):
Assessors Parcel Number:	Section, Township, Range: 15, 9E, 39N
USGS Quadrangle map name: Adin 7.5 minute U.S.G.S. quadrangle	
Watershed and other location descriptions, if known: Upper Pit River (Hydrologic Unit Code 18020002)	
Directions to the project location: From Sacramento: Take Interstate 5 north approximately 160 miles to Redding, CA. Then take Highway 299 East approximately 125 miles east toward the community of Adin, CA.	

Nature of Activity (Description of project, include all features, see instructions):

THIS PROJECT PROPOSES TO REPLACE THE NORTH FORK ASH CREEK BRIDGE (#03-0026). THE PROJECT INCLUDES THE REMOVAL AND REPLACEMENT OF THE EXISTING STRUCTURE, RECONSTRUCTION AND WIDENING OF THE ROADWAY APPROACH, PLACEMENT OF METAL BEAM GUARDRAIL, AND RELOCATION OF A PRIVATE DRIVEWAY CONNECTION.

TO CONFORM TO CURRENT DESIGN STANDARDS, THE NEW BRIDGE WILL HAVE AN INCREASED STRUCTURE LENGTH: EXISTING 24', NEW 46'. THE WIDTH WILL ALSO BE INCREASE FROM 32' TO 40', WITH 12" TRAVEL LANES AND 8' SHOULDERS. THE BRIDGE WILL BE RECONSTRUCTED IN STAGES, AND WORK WILL BE COMPLETED ONE LANE AT A TIME. WATER DOES NOT FLOW UNDER THE BRIDGE DURING THE SUMMER MONTHS, HOWEVER; A TEMPORARY CLEAR WATER DIVERSION WILL BE REQUIRED DURING CONSTRUCTION. A TEMPORARY GRAVEL PAD WILL BE PLACED IN THE CHANNEL. FALSE-WORK WILL BE CONSTRUCTED UNDER THE BRIDGE. THE EXISTING BRIDGE DECK, BARRIERS, AND RETAINING WALLS WILL BE REMOVED. THEN NEW ABUTMENTS, FALSE-WORK, BRIDGE DECK, AND RAILINGS WILL BE INSTALLED. THE JOINTS WILL BE SEALED AND A POLYESTER CONCRETE OVERLAY WILL BE PLACED. ONCE COMPLETED, THE WORK WILL BE REPEATED ON THE SECOND HALF OF THE BRIDGE.

AFTER CONSTRUCTION, THE CHANNEL WILL BE GRADED BACK TO ITS ORIGINAL ELEVATION. THE PROJECT AREA WILL BE SEEDED AND WILLOW CUTTINGS WILL BE PLANTED.

Project Purpose (Description the reason or purpose of the project, see instructions):

THIS EIGHTY-SIX YEAR OLD STRUCTURE REQUIRES REPLACEMENT DUE TO DETERIORATION (CRACKS IN THE ABUTMENT AND FOUNDATION SCOUR).

Use Box 6 if dredged and/or fill material is to be discharged:

Box 6 Reason(s) for Discharge into waters of the United States:

TEMPORARY GRAVEL WORK PAD

Type(s) of material being discharged and the amount of each type in cubic yards:

20 CUBIC YARDS OF CLEAN WASHED GRAVEL

Total surface area in acres of wetlands or other waters of the U.S. filled (see instructions):

0.00

Indicate in ACRES and LINEAR FEET (where appropriate) the proposed impacts to **waters of the United States**, and identify the impact(s) as permanent and/or temporary for each water body type listed below:

Water Body Type	Permanent		Temporary	
	Acres	Linear feet	Acres	Linear feet
Wetland				
Riparian streambed				
Unveg. streambed				
Lake				
Ocean				
Other			0.039	187
Total:			0.039	187

Potential indirect and/or cumulative impacts of proposed discharge (if any):

The excavation of the channel and increased span between bridge abutments will restore 0.023 acre of floodplain habitat.

Required drawings (see instructions):

Vicinity map: Attached (or mail copy separately if applying electronically)

To-scale Plan view drawing(s): Attached (or mail copy separately if applying electronically)

To-scale elevation and/or Cross Section drawing(s): Attached (or mail copy separately if applying electronically)

Has a wetlands/waters of the U.S. delineation been completed?

Yes, Attached (or mail copy separately if applying electronically) No

If a delineation has been completed, has it been verified in writing by the Corps?

Yes, Date of approved jurisdictional determination (m/d/yyyy): _____ Corps file number: No

Please attach¹ one or more color photographs of the existing conditions (aerials if possible).
¹or mail copy separately if applying electronically

Dredge Volume: Indicate in CUBIC YARDS the quantity of material to be dredged or used as fill:

No material will be dredged. Temporary fill - a temporary gravel workpad will be placed in the streambed for construction of the bridge. The workpad will be removed upon completion.

Indicate type(s) of material proposed to be discharged in waters of the United States:

20 cubic yards of clean, washed gravel

For proposed discharges of dredged material into waters of the U.S. (including beach nourishment), please attach² a proposed Sampling and Analysis Plan (SAP) prepared according to Inland Testing Manual (ITM) guidelines (including Tier I information, if available).

²or mail copy separately if applying electronically

Is any portion of the work already complete? YES NO

If yes, describe the work:

Box 7 Intended NWP number (1st)³: 14

Intended NWP number (2nd):

Intended NWP number (3rd):

³Enter the intended permit type(s). See NWP regulations for permit types and qualification information (http://www.usace.army.mil/inet/functions/cw/cecwo/reg/nationwide_permits.htm).

Box 8 Authority:

Is Section 10 of the Rivers and Harbors Act applicable?: YES NO

Is Section 404 of the Clean Water Act applicable?: YES NO

Box 9 Is the discharge of fill or dredged material for which Section 10/404 authorization is sought part of a larger plan of development?: YES NO

If discharge of fill or dredged material is part of development, name and proposed schedule for that larger development (start-up, duration, and completion dates):

Not applicable, as this is an individual project.

Location of larger development (If discharge of fill or dredged material is part of a plan of development, a map of suitable quality and detail of the entire project site should be included):

NA

Total area in acres of entire project area (including larger plan of development, where applicable):

1.85 acres (0.69 acres disturbed ground, including driveway relocation)

Box 10 Threatened or Endangered Species

Please list any federally-listed (or proposed) threatened or endangered species or critical habitat within the project area (use scientific names (e.g., Genus species), if known):

- a. There are no T&E species or habitat within the project area. See attached NES.
- b.
- c.
- d.
- e.
- f.

Have surveys, using U.S. Fish and Wildlife Service/NOAA Fisheries protocols, been conducted?

Yes, Report attached (or mail copy separately if applying electronically) No

If a federally-listed species would be impacted, please provide a description and a biological evaluation.

Yes, Report attached (or mail copy separately if applying electronically) Not attached

Has the USFWS/NOAA Fisheries issued a Biological Opinion?

Yes, Attached (or mail copy separately if applying electronically) No

If yes, list date Opinion was issued (m/d/yyyy):

Has Section 7 consultation been initiated by another federal agency?

Yes, Initiation letter attached (or mail copy separately if applying electronically) No

Has Section 10 consultation been initiated for the proposed project?

Yes, Initiation letter attached (or mail copy separately if applying electronically) No

Box 11 Historic properties and cultural resources:

Please list any historic properties listed (or eligible to be listed) on the National Register of Historic Places:

- a. There are no historical properties or cultural resources within the project area.
- b.
- c.
- d.
- e.
- f.

Are any cultural resources of any type known to exist on-site?

Yes No

Has an archaeological records search been conducted?

Yes, Report attached (or mail copy separately if applying electronically) No

Has a archaeological pedestrian survey been conducted for the site?

Yes, Report attached (or mail copy separately if applying electronically) No

Has a Section 106 MOA been signed by another federal agency and the SHPO?

Yes, Attached (or mail copy separately if applying electronically) No

If yes, list date MOA was signed (m/d/yyyy):

Has Section 106 consultation been initiated by another federal agency?

Yes, Initiation letter attached (or mail copy separately if applying electronically) No

Box 12 Measures taken to avoid and minimize impacts to waters of the United States (if any):

The project has been designed to disturb only the minimum amount of waters necessary for construction, and no permanent fills are required. Construction BMPs will be used to prevent erosion and sedimentation during and after construction. The project will be constructed during the low-flow/no-flow season.

Include multiple copies of Box 13 for separate sites.

Box 13 Proposed Compensatory Mitigation (site __ of __) related to fill/excavation and dredge activities. Indicate in ACRES and LINEAR FEET (where appropriate) the total quantity of waters of the United States proposed to be created, restored, enhanced and/or preserved for purposes of providing compensatory mitigation. Indicate water body type (wetland, riparian streambed, unvegetated streambed, lake, ocean, other) or non-jurisdictional (uplands⁵). Indicate mitigation type (on- or off-site by applicant, mitigation bank, in-lieu fee program):

Water Body Type	Created	Restored	Enhanced	Preserved	Mitigation type
Example: wetland			-	-	
Example: riparian stream	-	-		-	
Totals:					

⁵ For uplands, please indicate if designed as an upland buffer.

If no mitigation is proposed, provide detailed explanation of why no mitigation would be necessary:

The project has been designed to restore over 0.023 acre of floodplain habitat. Temporarily disturbed areas will be restored to pre-construction condition or better. The area will be seeded after construction. In addition, willow cuttings will be collected on-site and planted within the project limits where stream banks have been disturbed or are void of riparian vegetation. The project will result in a betterment to the floodplain habitat and no permanent fills are required therefore, no compensatory mitigation is proposed.

Has a draft/conceptual mitigation plan been prepared in accordance with the Army Corps of Engineers District guidelines? Yes, Attached (or mail copy separately if applying electronically) No

Mitigation site Latitude & Longitude (D/M/S, DD, or UTM):

USGS Quadrangle map name:

Assessors Parcel Number:	Section, Township, Range:
Other location descriptions, if known:	
Directions to the mitigation location:	

Box 14 Water Quality Certification (see instructions):

Applying for certification? Yes, Attached (or mail copy separately if applying electronically) No

Certification issued? Yes, Attached (or mail copy separately if applying electronically) No

Exempt? Yes No

If exempt, state why: Agency concurrence? Yes, Attached No

Box 15 Coastal Zone Management Act (see instructions):

Is the project located within the Coastal Zone? Yes No

If yes, applying for a coastal commission-approved Coastal Development Permit?

Yes, Attached (or mail copy separately if applying electronically) No

If no, applying for separate CZMA-consistency certification?

Yes, Attached (or mail copy separately if applying electronically) No

Permit/Consistency issued? Yes, Attached (or mail copy separately if applying electronically) No

Exempt? Yes No

If exempt, state why:

Box 16 List of other certifications or approvals/denials received from other federal, state, or local agencies for work described in this application:

Agency	Type Approval ⁴	Identification No.	Date Applied	Date Approved	Date Denied
DFG					
RWQCB					

⁴ Would include but is not restricted to zoning, building, and flood plain permits

NWP General Conditions (GC) checklist:

1. Navigation:

Project would be in compliance with GC? Yes No

Explain: The project will not have any adverse effect on navigation.

2. Aquatic Life Movements:

Project would be in compliance with GC? Yes No

Explain: The project will not disrupte the life cycle movements of any aquatic species.

3. Spawning Areas:

Spawning areas present? Yes No

Project would be in compliance with GC? Yes No

Explain: Spawning areas are not present within the project area.

4. Migratory Bird Breeding Areas:

Migratory bird breeding areas present? Yes No

Project would be in compliance with GC? Yes No

Explain: To avoid potential impacts, no tree removal shall take place between March 1 and July 15.

5. Shellfish Beds:

Shellfish beds present? Yes No

Project would be in compliance with GC? Yes No

Explain: There are no shellfish beds present within the project area.

6. Suitable Material:

Project would be in compliance with GC? Yes No

Explain: No trash, debris, asphalt, or other unsuitable material will be placed in waters of the United States, and all fill material will be free from toxic pollutants in toxic amounts.

7. Water Supply Intakes:

Project would be in compliance with GC? Yes No

Explain: There is no public water supply intake in or near the project area.

8. Adverse Effects From Impoundments:

Project would be in compliance with GC? Yes No

Explain: There will be no impact from impoundment of water.

9. Management of Water Flows:

Project would be in compliance with GC? Yes No

Explain: The proposed project will not alter the pre-construction course, or location of open waters. It will improve conveyance capacity. The project has been designed to withstand expected high flows and will not impede the passage of normal or high flows.

10. Fills Within 100-Year Floodplains:

Project would be within 100-year floodplains? Yes No

If yes, project would be in compliance with GC? Yes No

Explain: The proposed activity complies with applicable FEMA requirements.

11. Equipment:

Project would be in compliance with GC? Yes No

Explain: The contractor will be required to minimize soil disturbance when working in the creek.

12. Soil Erosion and Sediment Controls:

Project would be in compliance with GC? Yes No

Explain: Prior to start of construction, the contractor will be required to submit, for Caltrans approval, a Water Pollution Control Plan (WPCP). The WPCP must meet the standards and objectives for avoidance and minimization of adverse impacts to water quality set forth in Section 7-1.01G of Caltrans Standard Specifications and will describe the Best Management Practices (BMPs) that the contractor intends to use to prevent erosion and sedimentation during and after construction. Work in intermittent and ephemeral waters of the United States will be done during no-flow conditions. Work in perennial streams will be done during low-flow conditions.

13. Removal of Temporary Fills:

Project would be in compliance with GC? Yes No

Explain: The temporary fill will be placed in a manner in which it will not be eroded by high flows. The temporary fill will be removed in its entirety and the affected area will be returned to pre construction elevations.

14. Proper Maintenance:

Project would be in compliance with GC? Yes No

Explain: Caltrans is aware of this condition

15. Wild and Scenic Rivers:

Project would be within a National Wild and Scenic River System (including proposed system)?

Yes No

Project would be in compliance with GC? Yes No

Explain: There are no National Wild and Scenic Rivers, nor any rivers officially designated by Congress as study rivers for possible inclusion in the National Wild and Scenic River System and currently in official study status, within the construction limits.

16. Tribal Rights:

Project would be in compliance with GC? Yes No

Explain: The proposed project will not affect any tribal rights.

17. Endangered Species: see Box 10 above.

18. Historic Properties: see Box 11 above.

19. Designated Critical Waters (*check those that apply*)

Includes:

- 1) NOAA-designated marine sanctuaries,
- 2) National Estuarine Research Reserves,
- 3) State natural heritage sites,
- 4) Officially designated waters

Applicant is aware of the restrictions a) and b) below? Yes No

a) NWP 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50: No NWP can be authorized.

b) NWP 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38: Notification is required.

20. **Mitigation:** see Box 13 above.

21. **Water Quality** (401 Certification): see Box 14 above.

22. **Coastal Zone Permit:** see Box 15 above.

23. **Regional and Case-By-Case Conditions:**

Complete the Regional Conditions checklist below.

Project would be in compliance with any Case-by-case conditions? Yes No

Explain:

24. **Use of Multiple Nationwide Permits:**

Applicant is aware that if total proposed acreage of impact exceeds acreage limit of NWP with highest specified acreage, no NWP can be issued? Yes No

25. **Transfer of Nationwide Permit Verifications:**

Applicant is aware of this permit transfer requirement? Yes No

26. **Compliance Certification:**

Applicant is aware of this post-construction requirement? Yes No

27. **Pre-Construction Notification:**

If a PCN is required, the PCN includes: (*check those that apply*)

Delineation of wetlands and other waters of the U.S.

If project results in the loss of greater than 1/10 acre of wetlands, a compensatory mitigation plan or statement describing how the mitigation requirement will be satisfied

For non-Federal applicants, a list of threatened or endangered species or designated critical habitat that might be affected by the proposed work

For Federal applicants, documentation demonstrating compliance with the Endangered Species Act

For non-Federal applicants, a list of historic properties listed on, or determined eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places that may be affected by the proposed work; or a vicinity map indicating the location of the historic property

For Federal applicants, documentation demonstrating compliance with the National Historic Preservation Act

28. **Single and Complete Project:**

Project would be in compliance with GC? Yes No

Explain: The bridge replacement project is a single and complete project. No other work is required.

NWP Regional Conditions (RC) checklist:

II. Sacramento District (SPK) in California, Nevada, and Utah:

SPK Regional conditions to be applied across the entire Sacramento District including California, Nevada, and Utah (except Colorado):

1. Is pre-construction notification (PCN) required? Yes No

If yes, notification pursuant to General Condition 27 is required using either the South Pacific Division Preconstruction Notification (PCN) Checklist or a completed application form (ENG Form 4345). In addition, the PCN shall include:

- a. A written statement explaining 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. The drawings shall contain a title block, legend and scale, amount (in cubic yards) and size (in acreage) of fill in Corps jurisdiction, including both permanent and temporary fills/structures. The ordinary high water mark or, if tidal waters, the high tide line should be shown (in feet), based on National Geodetic Vertical Datum (NGVD) or other appropriate referenced elevation; and
- c. Pre-project color photographs of the project site taken from designated locations documented on the plan drawing.

2. Will mitigation be completed before or concurrent with construction of the project? Yes No

Compensatory mitigation shall be completed as required by special conditions of the NWP verification before or concurrent with construction of the authorized activity, except when specifically determined to be impracticable by the Sacramento District. When project mitigation involves use of a mitigation bank or in-lieu fee program, payment shall be made before commencing construction.

3. Does the project have property which will be preserved as part of mitigation for authorized impacts? Yes No

If yes, the NWP verification shall be recorded against the preserved property with the Registrar of Deeds or other appropriate official charged with the responsibility for maintaining records of title to or interest in real property.

Will structures, including boat ramps or docks, marinas, piers, and permanently moored vessels, be constructed in or adjacent to navigable waters? Yes No

If yes, the NWP verification shall be recorded against the area with the Registrar of Deeds or other appropriate official charged with the responsibility for maintaining records of title to or interest in real property. The recordation shall also include a map showing the surveyed location of the authorized structure and any associated areas preserved to minimize or compensate for project impacts.

4. Will any wetlands, other aquatic areas, and/or any vegetative buffers be preserved as part of mitigation for impacts? Yes No

If yes, these areas shall be placed into a separate "preserve" parcel prior to discharging dredged or fill material into waters of the United States, except where specifically determined to be impracticable by the Sacramento District. Permanent legal protection shall be established for all preserve parcels, following Sacramento District approval of the legal instrument.

5. 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.

6. Is a waiver of the 300 linear foot limitation for intermittent and ephemeral streams requested? Yes No

If yes, an analysis of the impacts to the stream environment, measures taken to avoid and minimize losses, other project alternatives that were considered (but were found not to be practicable), and a mitigation plan describing how the unavoidable losses will be offset, must be included.

7. Is a road crossing proposed? Yes No

If yes, road crossings shall be designed to ensure fish passage, especially for anadromous fish. Bridge designs that span the stream or river, utilize pier or pile supported structures, or involve large bottomless culverts with a natural streambed, where the substrate and streamflow conditions approximate existing channel conditions shall be employed.

Is an approach fill proposed? Yes No

Approach fills in waters of the United States below the ordinary high water mark are not authorized under the NWPs, except where avoidance has specifically been determined to be impracticable by the Sacramento District.

8. Are trenching activities proposed under NWP 12? Yes No

If yes, clay blocks, bentonite, or other suitable material shall be used to seal the trench to prevent the utility line from draining waters of the United States, including wetlands.

9. Are activities involving hard-armoring of the bank toe or slope proposed under NWP 13? Yes No

If yes, notification pursuant to General Condition 27 is required. Bank stabilization shall include the use of vegetation or other biotechnical design to the maximum extent practicable.

10. Is the activity proposed under NWP 23? Yes No

If yes, notification pursuant to General Condition 27 is required. The PCN shall include a copy of the signed Categorical Exclusion document and final agency determinations regarding compliance with Section 7 of the Endangered Species Act, Essential Fish Habitat under the Magnussen-Stevens Act, and Section 106 of the National Historic Preservation Act.

11. Are activities which will result in the loss of greater than 300 linear feet of streambed proposed under NWP 44? Yes No

If yes, the discharge shall not cause the loss of more than 300 linear feet of streambed unless the 300 linear foot limit is waived in writing by the Sacramento District for intermittent and ephemeral streams only. Loss of more than 300 linear feet of perennial streambed is not authorized.

Is the activity proposed within a water of the United States supporting anadromous fisheries? Yes No

This NWP does not authorize discharges in waters of the United States supporting anadromous fisheries.

12. Is channelization or relocation of an intermittent or perennial drainage proposed under NWPs 29 and/or 39? Yes No

If yes, channelization or relocation of intermittent or perennial drainage is not authorized, except when, as determined by the Sacramento District, the relocation would result in a net increase in functions of the aquatic ecosystem within the watershed.

13. Are temporary fills for construction access in waters of the United States supporting fisheries proposed under NWP 33? Yes No

If yes, temporary fills for construction access in waters of the United States supporting fisheries shall be accomplished with clean, washed spawning quality gravels where practicable as determined by the Sacramento District, in consultation with appropriate federal and state wildlife agencies.

14. Are activities which will result in the loss of greater than 0.5 acre of waters of the United States or the loss of more than 300 linear feet of ditch proposed under NWP 46? Yes No

If yes, the loss of greater than 0.5 acre of waters of the United States is not authorized. The discharge shall not cause the loss of more than 300 linear feet of ditch, unless the 300 foot linear foot limit is waived in writing by the Sacramento District.

15. Are any waters of the United States, including created, restored, or enhanced waters of the United States proposed for preservation under NWPs 29, 39, 40, 42, and/or 43? Yes No

If yes, upland vegetated buffers shall be established and maintained in perpetuity, to the maximum extent practicable, adjacent to all preserved open waters, streams and wetlands including created, restored, enhanced or

preserved waters of the U.S., consistent with General Condition 20. Except in unusual circumstances, vegetated buffers shall be at least 50 feet in width.

16. Is the proposed project located with a histosol, fen, or wetland contiguous with a fen? Yes No

If yes, all NWPs except 3, 6, 20, 27, 32, 38, and 47, are revoked. 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, notification pursuant to General Condition 27 is required.

17. Are activities proposed within 100 feet of the point of groundwater discharge of a natural spring? Yes No

If yes, notification pursuant to General Condition 27 is required. A spring source is defined as any location where ground water emanates from a point in the ground. For purposes of this condition, springs do not include seeps or other discharges which lack a defined channel.

SPK Regional conditions to be applied only in California:

1. Is the project located within Lake Tahoe Basin? Yes No

All NWPs within the Lake Tahoe Basin are revoked. Activities in this area shall be authorized under Regional General Permit 16 or through an individual permit.

2. Is the project located within the Primary and Secondary Zones of the Legal Delta? Yes No

NWPs 29 and 39 within the Primary and Secondary Zones of the Legal Delta are revoked. New development activities in this area will be reviewed through the Corps' standard permit process.

SPK Regional conditions to be applied only in Nevada:

1. Is the project located within Lake Tahoe Basin? Yes No

All NWPs within the Lake Tahoe Basin are revoked. Activities in this area shall be authorized under Regional General Permit 16 or through an individual permit.

SPK Regional conditions to be applied only in Utah:

1. Is the project located below 4217 feet mean sea level (msl) adjacent to the Great Salt Lake or below 4500 feet msl adjacent to Utah Lake? Yes No

For all NWPs in this area, except NWP 47, notification pursuant to General Condition 27 is required.

2. Will the project include bank stabilization activities that will affect more than 100 linear feet of perennial stream? Yes No

If yes, notification pursuant to General Condition 27 is required.

3. Will the project require NWP 27 authorization? Yes No

If yes, facilities for controlling stormwater runoff, construction of water parks such as kayak courses, and use of grout or concrete to construct in-stream structures are not authorized.

Will the project exceed 1500 linear feet (as measured on the stream thalweg), use in stream structures exceeding 50 cubic yards per structure, and/or incorporate grade control structures exceeding 1 foot vertical drop?

Yes No

If yes, notification pursuant to General Condition 27 is required.

Will the project involve stream restoration? Yes No

If yes, the post project stream sinuosity shall be appropriate to the geomorphology of the surrounding area and shall be equal to, or greater than, pre-project sinuosity. Sinuosity is defined as the ratio of stream length to project reach length. Structures shall allow the passage of aquatic organisms, recreational water craft or other navigational activities unless specifically waived in writing by the District Engineer.



U S Army Corps of
Engineers
Sacramento District

Nationwide Permit Summary

33 CFR Part 330; Issuance of Nationwide Permits - March 19, 2007 includes corrections of May 8, 2007 and addition of regional conditions December 2007

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 27.) (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. Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as appropriate, 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.

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. Culverts placed in streams must be installed to maintain low flow conditions.

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.

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.

15. 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 in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

16. 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.

17. Endangered Species.

(a) No activity is authorized under any NWP which is likely to 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 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.

(c) Non-federal permittees shall notify 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 may be affected by the proposed work or that utilize the designated critical habitat that may 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.

(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, both lethal and non-lethal "takes" of protected species are in violation of the ESA. 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/> and <http://www.noaa.gov/fisheries.html> respectively.

18. 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.

(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, 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)). 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 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.

(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, explaining 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.

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

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

(b) For NHPs 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 27, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NHPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

20 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) 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 some other form of mitigation would be more environmentally appropriate 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. 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.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream restoration, 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 NWP. 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 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. 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 arrangements or separate activity-specific compensatory mitigation. In all cases, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

(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.

21. 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.

22. 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.

23. 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.

24. 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.

25. 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)

26. Compliance Certification. Each permittee who received an NWP verification from the Corps must submit a signed certification regarding the completed work and any required mitigation. The certification form must be forwarded by the Corps with the NWP verification letter and will include:

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

(b) A statement that any required mitigation was completed in accordance with the permit conditions; and

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

27. 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, as a general rule, 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) Forty-five 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 17 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 18 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 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 Act (see 33 CFR 330.4(g)) is 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 cannot 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; 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 result in a quicker decision.);

(4) The PCN must include a delineation of special aquatic sites and other waters of the United States 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 of the United States, 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, where 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. 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

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.

(a) **28. 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.

B. Regional Conditions:

I. Sacramento District (All States, except Colorado)

1. When pre-construction notification (PCN) is required, the prospective permittee shall notify the Sacramento District in accordance with General Condition 27 using either the South Pacific Division Preconstruction Notification (PCN) Checklist or a completed application form (ENG Form 4345). In addition, the PCN shall include:

a. A written statement explaining 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. The drawings shall contain a title block, legend and scale, amount (in cubic yards) and size (in acreage) of fill in Corps jurisdiction, including both permanent and temporary fills/structures. The ordinary high water mark or, if tidal waters, the high tide line should be shown (in feet), based on National Geodetic Vertical Datum (NGVD) or other appropriate referenced elevation; and

c. Pre-project color photographs of the project site taken from designated locations documented on the plan drawing.

2. The permittee shall complete compensatory mitigation required by special conditions of the NWP verification before or concurrent with construction of the authorized activity, except when specifically determined to be impracticable by the Sacramento District. When project mitigation involves use of a mitigation bank or in-lieu fee program, payment shall be made before commencing construction.

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 against areas (1) designated to be preserved as part of mitigation for authorized impacts, including any associated covenants or restrictions, or (2) where structures such as boat ramps or docks, marinas, piers, and permanently moored vessels will be constructed in or adjacent to navigable waters (Section 10 and Section 404). The recordation shall also include a map showing the surveyed location of the authorized structure and any associated areas preserved to minimize or compensate for project impacts.

4. The permittee shall place wetlands, other aquatic areas, and any vegetative buffers preserved as part of mitigation for impacts into a separate "preserve" parcel prior to discharging

dredged or fill material into waters of the United States, except where specifically determined to be impracticable by the Sacramento District. Permanent legal protection shall be established for all preserve parcels, following Sacramento District approval of the legal instrument.

5. 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.

6. For NWPs 29, 39, 40, 42, 43, 44, and 46, requests to waive the 300 linear foot limitation for intermittent or ephemeral waters of the U.S. shall include an evaluation of functions and services provided by the waterbody taking into account the watershed, measures to be implemented to avoid and minimize impacts, other measures to avoid and minimize that were found to be impracticable, and a mitigation plan for offsetting impacts.

7. Road crossings shall be designed to ensure fish passage, especially for anadromous fisheries. Permittees shall employ bridge designs that span the stream or river, utilize pier or pile supported structures, or involve large bottomless culverts with a natural streambed, where the substrate and streamflow conditions approximate existing channel conditions. Approach fills in waters of the United States below the ordinary high water mark are not authorized under the NWPs, except where avoidance has specifically been determined to be impracticable by the Sacramento District.

8. For NWP 12, clay blocks, bentonite, or other suitable material shall be used to seal the trench to prevent the utility line from draining waters of the United States, including wetlands.

9. For NWP 13, bank stabilization shall include the use of vegetation or other biotechnical design to the maximum extent practicable. Activities involving hard-armoring of the bank toe or slope requires submission of a PCN per General Condition 27.

10. For NWP 23, the PCN shall include a copy of the signed Categorical Exclusion document and final agency determinations regarding compliance with Section 7 of the Endangered Species Act, Essential Fish Habitat under the Magnuson-Stevens Act, and Section 106 of the National Historic Preservation Act.

11. For NWP 44, the discharge shall not cause the loss of more than 300 linear feet of streambed. For intermittent and ephemeral streams, the 300 linear foot limit may be waived in writing by the Sacramento District. This NWP does not authorize discharges in waters of the United States supporting anadromous fisheries.

12. For NWPs 29 and 39, channelization or relocation of intermittent or perennial drainage, is not authorized, except when, as determined by the Sacramento District, the relocation would result in a net increase in functions of the aquatic ecosystem within the watershed.

13. For NWP 33, temporary fills for construction access in waters of the United States supporting fisheries shall be accomplished with clean, washed spawning quality gravels where practicable as determined by the Sacramento District, in consultation with appropriate federal and state wildlife agencies.

14. 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 this 300 foot linear foot limit is waived in writing by the Sacramento District.

15. For NWPs 29, 39, 40, 42, and 43, upland vegetated buffers shall be established and maintained in perpetuity, to the maximum extent practicable, next to all preserved open waters, streams and wetlands including created, restored, enhanced or preserved waters of the U.S., consistent with General Condition 20. Except in unusual circumstances, vegetated buffers shall be at least 50 feet in width.

16. All NWPs except 3, 6, 20, 27, 32, 38, and 47, are revoked for activities in histosols and fens 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, prospective permittees shall submit a PCN to the Sacramento District in accordance with General Condition 27.

17. For all NWPs, when activities are proposed within 100 feet of the point of groundwater discharge of a natural spring, prospective permittees shall submit a PCN to the Sacramento District in accordance with General Condition 27. A spring source is defined as any location where ground water emanates from a point in the ground. For purposes of this condition, springs do not include seeps or other discharges which lack a defined channel.

II. California Only

1. In the Lake Tahoe Basin, all NWPs are revoked. Activities in this area shall be authorized under Regional General Permit 16 or through an individual permit.

2. In the Primary and Secondary Zones of the Legal Delta, NWPs 29 and 39 are revoked. New development activities in the Legal Delta will be reviewed through the Corps' standard permit process.

III. Nevada Only

1. In the Lake Tahoe Basin, all NWPs are revoked. Activities in this area shall be authorized under Regional General Permit 16 or through an individual permit.

IV. Utah Only

1. For all NWPs, except NWP 47, prospective permittees shall submit a PCN in accordance with General Condition 27 for any activity, in waters of the United States, below 4217 feet mean sea level (msl) adjacent to the Great Salt Lake and below 4500 feet msl adjacent to Utah Lake.

2. A PCN is required for all bank stabilization activities in a perennial stream that would affect more than 100 linear feet of stream

3. For NWP 27, facilities for controlling stormwater runoff, construction of water parks such as kayak courses, and use of grout or concrete to construct in-stream structures are not authorized. A PCN is required for all projects exceeding 1500 linear feet as measured on the stream thalweg, using in stream structures exceeding 50 cubic yards per structure and/or incorporating grade control structures exceeding 1 foot vertical

drop. For any stream restoration project, the post project stream sinuosity shall be appropriate to the geomorphology of the surrounding area and shall be equal to, or greater than, pre project sinuosity. Sinuosity is defined as the ratio of stream length to project reach length. Structures shall allow the passage of aquatic organisms, recreational water craft or other navigational activities unless specifically waived in writing by the District Engineer.

V. Colorado Only

1. Final Regional Conditions Applicable to Specific Nationwide Permits within Colorado.

a. Nationwide Permit Nos. 12 and 14, Utility Line Activities and Linear Transportation Projects. In the Colorado River Basin, utility line and road activities crossing perennial water or special aquatic sites require notification to the District Engineer in accordance with General Condition 27 (Pre-Construction Notification).

b. Nationwide Permit No. 13 Bank Stabilization. In Colorado, bank stabilization activities necessary for erosion prevention in streams that average less than 20 feet in width (measured between the ordinary high water marks) are limited to the placement of no more than 1/4 cubic yard of suitable fill* material per running foot below the plane of the ordinary high water mark. Activities greater than 1/4 cubic yard may be authorized if the permittee notifies the District Engineer in accordance with General Condition 27 (Pre-Construction Notification) and the Corps determines the adverse environmental effects are minimal. [* See (g) for definition of Suitable Fill]

c. Nationwide Permit No. 27 Aquatic Habitat Restoration, Establishment, and Enhancement Activities.

(1) For activities that include a fishery enhancement component, the Corps will send the Pre-Construction Notification to the Colorado Division of Wildlife (CDOW) for review. In accordance with General Condition 27 (Pre-Construction Notification), CDOW will have 10 days from the receipt of Corps notification to indicate that they will be commenting on the proposed project. CDOW will then have an additional 15 days after the initial 10-day period to provide those comments. If CDOW raises concerns, the applicant may either modify their plan, in coordination with CDOW, or apply for a standard individual permit.

(2) For activities involving the length of a stream, the post-project stream sinuosity will not be significantly reduced, unless it is demonstrated that the reduction in sinuosity is consistent with the natural morphological evolution of the stream (sinuosity is the ratio of stream length to project reach length).

(3) Structures will allow the upstream and downstream passage of aquatic organisms, including fish native to the reach, as well as recreational water craft or other navigational activities, unless specifically waived in writing by the District Engineer. The use of grout and/or concrete in

building structures is not authorized by this nationwide permit.

(4) The construction of water parks (i.e., kayak courses) and flood control projects are not authorized by this nationwide permit.

d. Nationwide Permits Nos. 29 and 39; Residential Developments and Commercial and Institutional Developments. A copy of the existing FEMA/locally-approved floodplain map must be submitted with the Pre-Construction Notification. When reviewing proposed developments, the Corps will utilize the most accurate and reliable FEMA/locally-approved pre-project floodplain mapping, not post-project floodplain mapping based on a CLOMR or LOMR. However, the Corps will accept revisions to existing floodplain mapping if the revisions resolve inaccuracies in the original floodplain mapping and if the revisions accurately reflect pre-project conditions.

2. Final Regional Conditions Applicable to All Nationwide Permits within Colorado

e. Removal of Temporary Fills. General Condition 13 (Removal of Temporary Fills) is amended by adding the following: When temporary fills are placed in wetlands in Colorado, a horizontal marker (i.e. fabric, certified weed-free straw, etc.) must be used to delineate the existing ground elevation of wetlands that will be temporarily filled during construction.

f. Spawning Areas. General Condition 3 (Spawning Areas) is amended by adding the following: In Colorado, all Designated Critical Resource Waters (see enclosure 1) are considered important spawning areas. Therefore, In accordance with General Condition 19 (Designated Critical Resource Waters), the discharge of dredged or fill material is not authorized by the following nationwide permits in these waters: NWP's 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50. In addition, in accordance with General Condition 27 (Pre-Construction Notification), notification to the District Engineer is required for use of the following nationwide permits in these waters: NWP's 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37 and 38".

g. Suitable Fill. In Colorado, use of broken concrete as fill material requires notification to the District Engineer in accordance with General Condition 27 (Pre-Construction Notification). Permittees must demonstrate that soft engineering methods utilizing native or non-manmade materials are not practicable (with respect to cost, existing technology, and logistics), before broken concrete is allowed as suitable fill. Use of broken concrete with exposed rebar is prohibited in perennial waters and special aquatic sites.

h. Invasive Aquatic Species. General Condition 11 is amended by adding the following condition for work in perennial or intermittent waters of the United States: If heavy equipment is used for the subject project that was previously working in another stream, river, lake, pond, or wetland within 10 days of initiating work, one the

following procedures is necessary to prevent the spread of New Zealand Mud Snails and other aquatic hitchhikers:

(1) Remove all mud and debris from equipment (tracks, turrets, buckets, drags, teeth, etc.) and keep the equipment dry for 10 days. OR

(2) Remove all mud and debris from Equipment (tracks, turrets, buckets, drags, teeth, etc.) and spray/soak equipment with either a 1:1 solution of Formula 409 Household Cleaner and water, or a solution of Sparquat 256 (5 ounces Sparquat per gallon of water). Treated equipment must be kept moist for at least 10 minutes. OR

(3) Remove all mud and debris from equipment (tracks, turrets, buckets, drags, teeth, etc.) and spray/soak equipment with water greater than 120 degrees F for at least 10 minutes.

3. Final Regional Conditions for Revocation/Special Notification Specific to Certain Geographic Areas

i. Fens: All Nationwide permits, except permit Nos. 3, 6, 20, 27, 32, 38 and 47, are revoked in fens and wetlands adjacent to fens. Use of nationwide permit Nos. 3, 20, 27 and 38, requires notification to the District Engineer, in accordance with General Condition 27 (Pre-Construction Notification), and the permittee may not begin the activity until the Corps determines the adverse environmental effects are minimal. The following defines a fen:

Fen soils (histosols) are normally saturated throughout the growing season, although they may not be during drought conditions. The primary source of hydrology for fens is groundwater. Histosols are defined in accordance with the U.S. Department of Agriculture, Natural Resources Conservation Service publications on Keys to Soil Taxonomy and Field Indicators of Hydric Soils in the United States (<http://soils.usda.gov/technical/classification/taxonomy>).

j. Springs: Within the state of Colorado, all NWP's, except permit 47 (original 'C'), require preconstruction notification pursuant to General Condition 27 for discharges of dredged or fill material within 100 feet of the point of groundwater discharge of natural springs. A spring source is defined as any location where groundwater emanates from a point in the ground. For purposes of this regional condition, springs do not include seeps or other discharges which do not have a defined channel.

4. Additional Information

The following provides additional information regarding minimization of impacts and compliance with existing general Conditions:

a. Permittees are reminded of the existing General Condition No. 6 which prohibits the use of unsuitable material. Organic debris, building waste, asphalt, car bodies, and trash are not suitable material. Also, General Condition 12 requires appropriate erosion and sediment controls (i.e. all fills must be permanently stabilized to

prevent erosion and siltation into waters and wetlands at the earliest practicable date). Streambed material or other small aggregate material placed along a bank as stabilization will not meet General Condition 12. Also, use of erosion control mats that contain plastic netting may not meet General Condition 12 if deemed harmful to wildlife.

b. Designated Critical Resource Waters in Colorado. In Colorado, a list of designated Critical Resource Waters has been published in accordance with General Condition 19 (Designated Critical Resource Waters). This list will be published on the Albuquerque District Regulatory home page (<http://www.spa.usace.army.mil/reg/>)

c. Federally-Listed Threatened and Endangered Species. General condition 17 requires that non-federal permittees notify the District Engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project. Information on such species, to include occurrence by county in Colorado, may be found at the following U.S. Fish and Wildlife Service website:
http://www.fws.gov/mountain%2Dprairie/endspp/name_county_search.htm

C. 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.

D. 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, establishment (creation), enhancement, or preservation of aquatic resources for the purpose of compensating for 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.

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.

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 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.

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 NWP, 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.

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 waterbodies with their adjacent uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 20.)

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 project: 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 project must have independent utility (see definition). For linear projects, a "single and complete project" is 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 waterbody several times at separate and distant locations, each crossing is considered a single and complete project. 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.

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 channellization: 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.

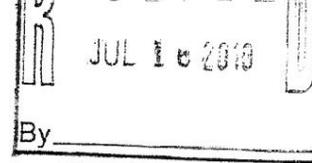
Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, 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 NWP, a waterbody is a jurisdictional water of the United States that, during a year with normal patterns of precipitation, has water flowing or standing above ground to the extent that an ordinary high water mark (OHWM) or other indicators of jurisdiction can be determined, as well as any wetland area (see 33 CFR 328.3(b)). If a jurisdictional wetland is adjacent—meaning bordering, contiguous, or neighboring—to a jurisdictional waterbody displaying an OHWM or other indicators of jurisdiction, 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.

**CALIFORNIA ENVIRONMENTAL QUALITY ACT
NOTICE OF EXEMPTION**



To: Office of Planning and Research
1400 Tenth Street, Room 121
Sacramento, California 95814

Date: July 14, 2010

From: California Department of Fish and Game
Northern Region
601 Locust Street
Redding, California 96001

Project Title: Issuance of Streambed Alteration Agreement No. **1600-2010-0058-R1**, North Fork Ash Creek Bridge Replacement Project.

Project Location (Specific): Approximately ¼ mile upstream from the confluence with Ash Creek; NW ¼ of NE ¼, Section 15, T9E, R39N, Mount Diablo Base and Meridian; 41.2262° north, 120.9229° west.

Project Location (City and County): Work will take place on the State Route 299 bridge over the North Fork of Ash Creek, approximately 2.2 miles east of Adin in Modoc County.

Description of Project: See Attached Agreement.

Name of Public Agency Approving Project: California Department of Fish and Game.

Name of Agency Carrying Out Project: California Department of Transportation.

Exempt Status (Class and Guidelines Section): **Categorical Exemption: Class 2, Section 15302 (c)** – Replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced. (c) Replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity.

Reasons Why Project is Exempt: The project proposes to replace the existing bridge on the same alignment with no increase in traffic capacity. There will be no removal of healthy, mature, scenic trees as a result of this project. The project will have no significant effect on the environment.

Lead Agency Contact Person: Craig Martz

Phone: (530) 225-2281

Signature:

Date:

7/14/10

Title:

Curt Babcock
Acting Habitat Conservation Program Manager

Signed by Lead Agency

Date received for filing at OPR:

Signed by Applicant

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



LAKE or STREAMBED ALTERATION AGREEMENT
NOTIFICATION No. 1600-2010-0058-R1
North Fork Ash Creek
Tributary to Ash Creek

CALIFORNIA DEPARTMENT OF TRANSPORTATION
NORTH FORK ASH CREEK BRIDGE REPLACEMENT

This Lake or 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 March 18, 2010, 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 North Fork Ash Creek Bridge Replacement Project (hereafter, the Project) is located on State Route (SR) 299 approximately 2.2 miles east of the community of Adin in Modoc County, California. The Project is located on the Adin US Geological Survey (USGS) 7.5 minute quadrangle, Mt. Diablo Base and Meridian, 41.2262, -120.9229.

PROJECT DESCRIPTION

The Project will replace the existing bridge with a wider structure on the current highway alignment. The Project includes the removal and replacement of the existing single

span structure, reconstruction and widening of the roadway approach, placement of metal beam guardrail, and relocation of a private driveway connection. To conform to current design standards, the length of the new bridge will be increased from 24 feet to 46 feet. The width will also be increased from 32 feet to 40 feet, with two 12-foot travel lanes and 8-foot shoulders. The bridge will be reconstructed in stages, with the work being completed one lane at a time. Although the stream goes dry during the summer, a temporary clear water diversion will be required to remove water from the channel prior to construction. A temporary gravel pad will be placed in the channel and falsework will be constructed under the bridge. The existing bridge deck, barriers and retaining walls will be removed. Then new abutments, falsework, bridge deck and railings will be installed. The joints will be sealed and a polyester concrete overlay will be placed. Once completed, the work will be repeated on the second half of the bridge. The temporary gravel pad will be removed and the channel restored to its original elevation.

No permanent fill is proposed in the channel and the span between the abutments will be increased by an additional 20 feet, providing a wider floodplain and increased channel capacity beneath the structure. Temporarily disturbed areas will be restored to pre-construction condition or better. In addition, willow cuttings will be collected on site and planted within the Project limits to restore riparian habitat. All work shall be in accordance with submitted plans and diagrams and any subsequent revisions approved by the DFG in writing.

PROJECT IMPACTS

Existing fish or wildlife resources the project could substantially adversely affect include: cliff swallows (*Hirundo pyrrhonota*) and other riparian-dependent bird species; Sacramento suckers (*Catostomus occidentalis*), and other non-game fishes, amphibians, reptiles, aquatic invertebrates, mammals, birds, and other aquatic and riparian species.

The adverse effects the project could have on the fish or wildlife resources identified above include: disruption of nesting behavior and decreased reproductive success due to construction disturbance; loss of occupied passerine habitat and nests, including eggs and/or nestlings, as a result of vegetation removal; direct mortality of fish, amphibians, and other aquatic species during construction de-watering activities; temporary and permanent impacts to aquatic species due to suspended sediment and the smothering and/or shading of egg masses and benthic invertebrate communities due to sediment deposition.

The Project will result in temporary impacts to 187 lineal feet (0.039 acre) of stream channel and will restore 0.023 acre of floodplain habitat. Approximately 1,799 square feet (0.0413 acre) of Modoc Great Basin Riparian Scrub habitat will be temporarily impacted during construction and approximately 53 square feet (0.0012 acre) of riparian scrub will be permanently affected.

MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

1. Administrative Measures

Permittee shall meet each administrative requirement described below.

- 1.1 Documentation at Project Site. Permittee shall make the Agreement, any extensions and amendments to the Agreement, and all related notification materials and California Environmental Quality Act (CEQA) documents, readily available at the project site at all times and shall be presented to DFG personnel, or personnel from another state, federal, or local agency upon request.
- 1.2 Providing Agreement to Persons at Project Site. Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement to all persons who will be working on the project at the project site on behalf of Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.
- 1.3 Notification of Conflicting Provisions. Permittee shall notify DFG if Permittee determines or learns that a provision in the Agreement might conflict with a provision imposed on the project by another local, state, or federal agency. In that event, DFG shall contact Permittee to resolve any conflict.
- 1.4 Project Site Entry. Permittee agrees that DFG personnel may enter the project site at any time after notifying the Resident Engineer to verify compliance with the Agreement.
- 1.5 Permittee's notification (Notification of Lake or Streambed Alteration together with all maps, plans, photographs, drawings, and all other supporting documents submitted with notification to describe the activity) is hereby incorporated by reference into this Agreement. Permittee shall conduct project activities within the work areas and using the mitigative features described in the notification and supporting documents, unless such project activities, work areas or mitigative features are modified by the provisions of this Agreement, in which case the activities shall be conducted as described in this 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.

- 2.1 All work within the channel or on the stream banks shall be confined to the period commencing May 1 and ending October 15, provided the stream is dry or at minimum flow. If weather conditions permit and the stream is dry or at minimum

flow, the Permittee may perform work within the stream channel or on the banks outside of the above referenced work window, provided a written request is made to DFG at least five (5) days before the proposed work period variance. Written approval from DFG for the proposed work period variance must be received by the Permittee prior to the start or the continuation of work outside of the above referenced work window.

- 2.2 If work is performed within the stream channel or on the banks outside of the above referenced work window, 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.
- 2.3 Notwithstanding Condition 2.1 above, removal of the above-ground portions of existing trees and shrubs shall occur after August 15 and before March 1 to avoid impacts to nesting birds. If vegetation must be removed during the nesting season (March 1 to August 15) nest surveys shall be conducted prior to vegetation clearing.
- 2.4 The Permittee shall instruct all persons who will be completing any ground disturbing activity at a work site to comply with the conditions set forth in this Agreement and shall inspect each work site before, during, and after completion of any ground-disturbing activity at the work site.

HABITAT AND SPECIES PROTECTION

- 2.5 Permittee shall prevent swallows and other migratory birds from nesting on the existing bridge if construction activities on or adjacent to the structure will occur during the nesting season (March 1 – August 15). Prevention measures shall be in place by March 1 and be inspected on a regular basis to maintain their effectiveness.
- 2.6 Prior to initiating channel- 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.

- 2.7 Riparian areas within the Project limits but outside the work area shall be designated as Environmentally Sensitive Areas (ESAs) and shall be off limits to construction equipment and personnel.
- 2.8 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. ESA fencing shall be installed prior to the beginning of channel- ground- or vegetation-disturbing activities.
- 2.9 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.
- 2.10 Disturbance or removal of riparian vegetation shall not exceed the minimum necessary to complete operations. Where feasible, hand tools (chain saws, etc.) shall be used to trim woody riparian vegetation to the extent necessary to gain access to work sites. Whenever possible, root systems shall be left intact to facilitate more rapid recovery following temporary construction impacts.
- 2.11 Except where provided for within this agreement, the removal of riparian vegetation from the streambed or streambanks is prohibited without prior written approval from DFG. The work area shall be identified to all workers, as represented in plans.

CONSTRUCTION DEWATERING AND INSTREAM STRUCTURES

- 2.12 All work within the channel or on the banks shall be performed when the channel is dry or at minimum flow. If water is present during construction, all work shall be performed in isolation from surface or subsurface flow.
- 2.13 Where water is present, a temporary stream diversion shall be constructed to isolate the work area from flow. Temporary diversions may be constructed using gravel berms, clean washed spawning gravels, sand bags, K-rail, plastic sheeting, or a combination of these materials upstream from the work area. Flows will then be diverted into a temporary culvert, pipe, or conduit and released downstream from the work area.
- 2.14 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.

- 2.15 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.
- 2.16 Permittee shall remove and relocate fish and other aquatic organisms from the stream channel prior to dewatering. One or more of the following methods shall be used to capture and relocate aquatic species: dip net, seine, throw net, or electrofishing. Fish relocation activities shall be overseen by DFG or a qualified fisheries biologist.
- 2.17 Structures and materials not designed to withstand high flows shall be removed from the floodplain prior to October 15.

EROSION AND SEDIMENT CONTROL

- 2.18 The project shall at all time feature adequate erosion and sediment control devices to prevent the degradation of water quality.
- 2.19 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, certified weed-free straw, compost, fiber, commercial fertilizer, stabilizing emulsion and mulch, or combinations thereof.
- 2.20 Erosion control measures shall be monitored and maintained during and after each storm event. Modifications, repairs, and improvements to erosion control measures shall be made following each storm event to prevent sediment from entering surface waters or wetlands.
- 2.21 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.
- 2.22 All equipment used during construction of this Project shall be cleaned (i.e. free of dirt and debris that may harbor noxious weed seeds and plant parts) prior to its arrival on site and before leaving the Project area.
- 2.23 To minimize the introduction and spread of noxious weeds, herbaceous vegetation and the top layer of soil from the area to be disturbed shall be excavated and stockpiled during construction. Upon completion of construction, the stockpiled

material shall be spread to a uniform thickness over the disturbed portions of the work area.

- 2.24 Following construction, all disturbed upland areas shall be stabilized and reseeded with an erosion control mix consisting of regionally appropriate, native grass and forb species.
- 2.25 Upon completion of construction, willow cuttings shall be collected on-site and planted within the project limits to stabilize stream banks and provide riparian habitat. Cuttings shall be installed in the winter or early spring, when soils have been wetted by rainfall or snow melt.

PETROLEUM, CHEMICAL AND OTHER POLLUTANTS

- 2.26 All construction-related materials and equipment shall be stored in designated staging areas located outside of the floodplain unless approved in writing by DFG.
- 2.27 Refueling and vehicle maintenance shall be performed at least 100 feet from streams or other water bodies unless approved in writing by DFG.
- 2.28 No equipment or machinery shall be operated within any flowing stream.
- 2.29 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, if introduced to water, could be deleterious to aquatic life, wildlife, or riparian habitat.
- 2.30 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.
- 2.31 All activities performed in or near a stream shall have absorbent materials designated for spill containment and clean up activities on-site for use in an accidental spill. The Permittee shall immediately notify the California Emergency Management Agency at 1-800-852-7550 and immediately initiate the clean up activities. DFG shall be notified by the Permittee and consulted regarding clean-up procedures.
- 2.32 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.

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
District 2
P.O. Box 496073
Redding, California 96049-6073
Fax: (530) 225-3019
eric_orr@dot.ca.gov

To DFG:

Department of Fish and Game
Northern Region
601 Locust Street, California 96001
Attn: Lake and Streambed Alteration Program – Craig Martz
Notification #1600-2010-0058-R1
Fax: (530) 225-0324
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, 2013, 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.

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

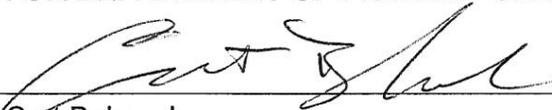


Eric Orr
Project Manager

7/9/10

Date

FOR DEPARTMENT OF FISH AND GAME



Curt Babcock
Acting Habitat Conservation Program Manager

7/14/10

Date

Prepared by: Craig Martz
Staff Environmental Scientist

Memorandum

*Flex your power!
Be energy efficient!*

To: MR. JOEY AQUINO
Design Engineer
Bridge Design North
Division of Engineering Services

Date: July 15, 2010
File: 02-MOD-299-PM 3.38
02-2C2211
North Fork Ash Creek Bridge
(Replace)
Bridge No. 03-0060
(Replaces Br. No. 03-0026)

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
GEOTECHNICAL SERVICES – MS 5

Subject: Foundation Recommendations

Scope of Work

The original structure was constructed in 1923 and widened in 1948. This is a simple span structure supported on spread footings. This bridge is scour critical and needs to be replaced.

Project Description

The Office of Geotechnical Design - North (OGD-N) received a request for Final Foundation Recommendations (FR) dated August 28, 2008 for the replacement of the existing North Fork Ash Creek Bridge, Br. No. 03-0026. The new bridge will have the following number, Br. No. 03-0060. This project is located north of the town of Adin on State Highway Route 299 in Modoc County.

These foundation recommendations are based on NGVD29.

Site Geology and Subsurface Conditions

Based on the published 1:250,000 scale Geologic Map of California, Olaf P. Jenkins Edition, Alturas Sheet, Compilation by Thomas E. Gay, Jr. and Quintin A. Aune 1958, Third Printing, 1978, this site is mapped as consisting of Recent alluvium overlying Miocene volcanics of either basalt or pyroclastic rock. These units are described as alluvium, Quaternary sediments, fans, and local lake deposits and Tertiary volcanics including andesite flows, olivine basalt flows, rhyolitic and andesitic tuffs and tuff-breccias.

The subsurface investigation performed in 1961 for the Rush Creek Bridge and the investigation performed in 1983 for the Ash Creek Bridge lie within similar geologic conditions as the proposed North Fork Ash Creek Bridge site. The subsurface materials at these locations indicate granular alluvium and fragmental material derived from pyroclastic rock consisting of medium to coarse-grained sand, silty sand, sandy silt, cemented silt, gravel and boulders.

The November 2007 foundation investigation encountered approximately 21.0 feet of loose silty sand and gravel, and soft to very stiff clay, clayey silt or sandy clay with gravel and organics (grass) with a strong hydrogen sulfide odor. From this depth, the soils become very dense and remain the same to the bottom of the borings. Trace cobbles were encountered at a depth of approximately 35.0 feet. Bedrock was not encountered at the site to the drilling depth of 76.7 feet or elevation 4,154 feet.

Ground Water

Ground water levels were measured during the field investigation of November 2007 at a depth of 12.8 feet or elevation of 4,218.4 feet in Boring R-07-001 and 4,219.4 feet in Boring R-07-002. Water levels will fluctuate due to seasonal precipitation and may be higher during the winter months and the spring of the year. For design purposes the highest ground water elevation should be used.

Scour Evaluation

The existing structure, built in 1923 is supported on spread footings and has extensive scour at the bridge foundations. The abutments exhibit cracking and the cut-off walls are exposed, possibly undermined. This bridge has a scour critical rating.

The Final Hydraulic Report (FHR) dated August 27, 2008 states, "Since the new bridge is significantly longer and is expected to match the high-flow waterway width, the contraction scour effects were assumed to be negligible for the longer replacement bridge. The estimated potential long-term degradation for the longer bridge is 4.0 feet (depth). Based on the existing thalweg elevation at the site, the corresponding potential long-term channelbed elevation is roughly 4,214.0 feet. Lateral thalweg migration to either abutment is possible." According to the FHR the thalweg elevation (at the upstream face of bridge) is 4,218.0 feet. Based on this information and communication with the Office of Structures Design, a total scour elevation of 4,214.0 feet will be used for this report.

Additionally, the FHR addresses bank slope protection, wingwalls and rock slope protection. Please refer to the Final Hydraulics Report for additional information.

Corrosion Evaluation

Corrosion samples were collected during the 2007 field investigation and submitted to the Office of Testing and Technology Services, Corrosion Technology Branch, Transportation Laboratory, 5900 Folsom Blvd., Sacramento, CA. The corrosion results indicate that this site is not corrosive to foundation elements. However, due to the location and elevation, deicing salts are most likely used on the roadway and bridge deck, therefore, appropriate corrosion measures should be considered.

Table 1. Corrosion Test Summary

SIC Number (TL101)	Sample Location	Sample Type	Sample Depth	Minimum Resistivity (ohm-cm) (1)	pH (2)	Chloride Content (ppm) (3)	Sulfate Content (ppm) (4)
C537108	NF Ash Creek Br.	Soil	0-1.2 ft.	2971	6.63	N/A	N/A
C537106	NF Ash Creek Br.	Soil	0-1.2 ft.	8005	8.25	N/A	N/A
C537107	NF Ash Creek Br.	Soil	26-29.0 ft.	2899	7.28	N/A	N/A
C537109	NF Ash Creek Br.	Soil	11-12.5 ft.	1201	6.87	N/A	N/A

■ This site is not corrosive to foundation elements (see note below). (1), (2)CTM 643, (3)CTM 422, (4)CTM417.

Note:

The Corrosion Technology Branch considers a site to be corrosive if one or more of the following conditions exist for the representative soil and/or water samples taken at the site: chloride concentration is 550 ppm or greater, sulfate concentration is 2000 ppm or greater, or the pH is 5.5 or less. The minimum resistivity serves only as an indicator parameter for the possible presence of soluble salts and is not included to define a corrosive site. It is the practice of the Corrosion Technology Branch that if the minimum resistivity of the sample is greater than 1000 ohm-cm, the sample is considered to be non-corrosive and testing to determine the sulfate and chloride content is not performed.

Seismic Study

Based on the Digital Database of Quaternary and Younger Faults from the Fault Activity Map of California, Version 2.0 (July 2005), Bryant, W.A. (Compiler) http://www.consrv.ca.gov/CGS/information/publications/QuaternaryFaults_ver2.htm the controlling fault is the Likely Fault (Likely Segment) with a maximum credible earthquake moment magnitude of 7.0, and is located about 12 miles northeast of the site. The estimated Peak Bedrock Acceleration (PBA) as modeled by Geomatrix '97 is estimated to be 0.3g. The potential for surface rupture at the site due to fault movement is considered insignificant since there are no known faults projecting towards or passing directly through the project site.

Based on the recent Log of Test Borings (LOTBs), the liquefaction potential is considered insignificant.

Based on these LOTBs, final Caltrans Seismic Design Criteria (CSDC) Acceleration Response Spectrum (ARS) curve corresponding to soil profile Type D with a PBA of 0.3g is recommended for design. The recommended ARS curve is attached in Appendix A.

As-Built Foundation Data

No As-Built information was available in the Geotechnical Services bridge file room for this structure. This study consisted of reviewing the As-Built General Plan and Details for the widening of the North Fork Ash Creek Bridge (Br. No. 03-0026) structure dated April 12, 1948 that was obtained from the Bridge Inspection Records Information System (BIRIS). The study also included a review of bridge files for the nearby structures, Ash Creek Bridge (Br. No. 03-0002), Dutch Flat Creek Culvert and Rush Creek Bridge (Br. No. 03-0003) and information from the field reconnaissance on June 14, 2005.

Foundation Recommendations

Based on the 2007 field investigation and review of the bridge files for the Ash Creek Bridge, Dutch Flat Creek Culvert and the Rush Creek Bridge, the proposed North Fork Ash Creek Bridge, Br. No. 03-0026, as indicated on the General Plan dated May 6, 2009, may be supported on driven steel HP14x117 “H” piles at all support locations.

The geotechnical capacity for the driven steel “H” piles are derived from both skin friction and end bearing.

Table 2. Foundation Recommendations for Abutments

Abutment Foundations Design Recommendations									
Support Location	Pile Type	Cut-off Elevation (ft)	LRFD Service-I Limit State Load (kips) per Support		LRFD Service-I Limit State Total Load (kips) per Pile (Compression)	Nominal Resistance (kips)	Design Tip Elevation (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
			Total	Permanent					
Abut. 1	HP14x117	4221	966	681	134	270	4185.0 (a)	4185.0	270
Abut. 2	HP14x117	4221	966	681	134	270	4185.0 (a)	4185.0	270
Type I Retaining Walls	HP14x117	4221	N/A	N/A	90	180	4195.0 (a)	4195.0	180

Notes:

- 1) Design tip elevations are controlled by: (a) Compression.
- 2) The nominal driving resistance required is equal to the nominal resistance needed to support the factored load plus driving resistance from the unsuitable penetrated soil layers (very soft and scourable), which do not contribute to the design resistance. Unsuitable soil layers extend to elevation 4,214.0.
- 3) Design tip elevation for Lateral Load is typically provided by SD.

Table 3. Pile Data Table

Pile Data Table						
Location	Pile Type	Nominal Resistance (kips)		Design Tip Elevation (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance (kips)
		Compression	Tension			
Abut. 1	HP14x117	270	0	4185.0 (a)	4185.0	270
Abut. 2	HP14x117	270	0	4185.0 (a)	4185.0	270
Type I Retaining Walls	HP14x117	180	0	4195.0 (a)	4195.0	180

Notes:

- 1) *Design tip elevations for are controlled by: (a) Compression.*
- 2) *The nominal driving resistance required is equal to the nominal resistance needed to support the factored load plus driving resistance from the unsuitable penetrated soil layers (very soft and scourable), which do not contribute to the design resistance. Unsuitable soil layers extend to elevation 4,214.0.*
- 3) *Design tip elevation for Lateral Load is typically provided by SD.*

General Notes to Designer

- 1) The structural engineer shall show on the plans in the pile data table, the minimum pile tip elevation required to meet the lateral load demands.
- 2) If the specified pile tip elevation that is required to meet lateral load demand exceeds the specified pile tip elevation provided in this report, the Office of Geotechnical Design North (OGD-N) should be contacted for further recommendations.
- 3) Type “D” excavation is to be shown on the plans at the abutment locations.

Construction Considerations

- 1) Driven steel “H” piles should easily penetrate the first 23 to 26 feet of loose to soft alluvial material. Below these depths, the driving resistance will increase rapidly and pile penetration may be difficult.
- 2) Driving shoes may be required to prevent pile damage and to aid in reaching the desired depth of penetration.
- 3) It is anticipated that there will be hard driving during pile installation. If the pile reaches refusal above the specified tip elevation, this Office shall be notified. Drilling to assist pile driving shall not be performed without prior authorization from this Office.
- 4) A strong hydrogen sulfide odor was encountered/noted on the Log of Test Borings in Boring R-07-002 from the sample obtained at elevation 4,215.0 feet.

PROJECT INFORMATION

Standard Special Provisions S5-280, "Project Information," discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is an excerpt from SSP S5-280 disclosing information originating from Geotechnical Services. Items listed to be included in the Information Handout will be provided in Acrobat (.pdf) format to the addressee(s) of this report via electronic mail.

Data and information attached with the project plans are:

A. Log of Test Borings for North Fork Ash Creek Bridge, Bridge Number 03-0060.

Data and information included in the Information Handout provided to the bidders and contractors are:

A. Foundation Report for North Fork Ash Creek Bridge, Bridge Number 03-0060, dated July 15, 2010.

Any questions regarding the above recommendations should be directed to John L. Thorne at (916)-227-1034 or Reid Buell at (916) 227-1012. Seismic questions should be directed to Reza Mahallati at (916) 227-1033.

Report by:

JOHN L. THORNE
Engineering Geologist
Geotechnical Design - North

XING ZHENG, C.E.G. No. 2130
Engineering Geologist
Geotechnical Design - North

REZA MAHALLATI, PE 49374
Senior Materials and Research Engineer
Geotechnical Design - North



exp. 3/31/2011

Attachment: Appendix A, Figure 1 – Acceleration Response Spectrum Recommended for Design.

- C: EricOrr – DPM (E-copy)
- MarkWillian – OGS (E-copy)
- StructureConstruction R.E. Pending (E-copy)
- DES OE OPS&E (E-copy)
- ByronBerger – DME-D02 (E-copy)
- SteveNg – OSH
- GeoDog Archive

Appendix A

Recommended ARS Curve

North Fork Ash Creek
Bridge Replace
Br. No. 03-0060
02-2C2211

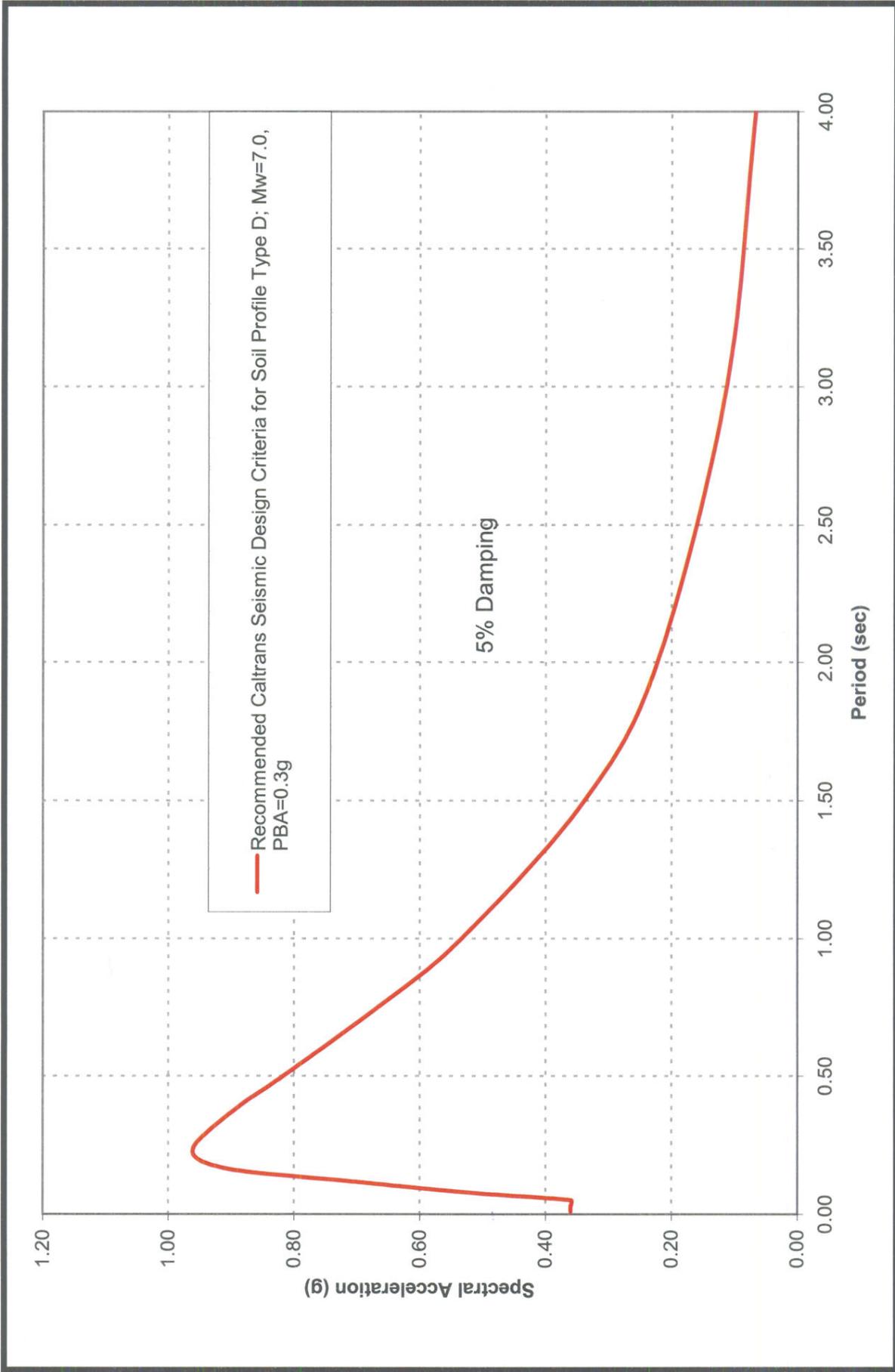


Figure 1. Acceleration Response Spectrum Recommended for Design

Memorandum

*Flex your power!
Be energy efficient!*

To: MR. JOEY AQUINO
Design Engineer
Bridge Design North
Division of Engineering Services

Date: August 25, 2010
File: 02-MOD-299-PM 3.38
02-2C2211
North Fork Ash Creek Bridge
(Replace)
Bridge No. 03-0060
(Replaces Br. No. 03-0026)

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
GEOTECHNICAL SERVICES – MS 5

Subject: Addendum to Foundation Recommendations

A request to modify the “Cut-off Elevations” as shown in the pile data table of the Foundation Recommendations for North Fork Ash Creek Bridge, dated July 15, 2010, has been received from the Office of Bridge Design North - Division of Engineering Services. The revision is necessary to reflect the extra pile length embedded farther up into the abutment stem and to match the pile data table as shown on the plans. The change in “Table 2. Foundation Recommendations for Abutments” shows a modified “Cut-off Elevation” from 4221 feet to 4222.75 feet. The entire “Foundation Recommendations” section of the report is shown below.

Additionally, the “Project Information” section of the report required updating to include the “Addendum to Foundation Recommendations”. The updated “Project Information” section of the report is included.

Foundation Recommendations

Based on the 2007 field investigation and review of the bridge files for the Ash Creek Bridge, Dutch Flat Creek Culvert and the Rush Creek Bridge, the proposed North Fork Ash Creek Bridge, Br. No. 03-0026, as indicated on the General Plan dated May 6, 2009, may be supported on driven steel HP14x117 “H” piles at all support locations.

The geotechnical capacity for the driven steel “H” piles are derived from both skin friction and end bearing.

Table 2. Foundation Recommendations for Abutments

Abutment Foundations Design Recommendations									
Support Location	Pile Type	Cut-off Elevation (ft)	LRFD Service-I Limit State Load (kips) per Support		LRFD Service-I Limit State Total Load (kips) per Pile (Compression)	Nominal Resistance (kips)	Design Tip Elevation (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
			Total	Permanent					
Abut. 1	HP14x117	4222.75	966	681	134	270	4185.0 (a)	4185.0	270
Abut. 2	HP14x117	4222.75	966	681	134	270	4185.0 (a)	4185.0	270
Type I Retaining Walls	HP14x117	4219.42	N/A	N/A	90	180	4195.0 (a)	4195.0	180

Notes:

- 1) Design tip elevations are controlled by: (a) Compression.
- 2) The nominal driving resistance required is equal to the nominal resistance needed to support the factored load plus driving resistance from the unsuitable penetrated soil layers (very soft and scourable), which do not contribute to the design resistance. Unsuitable soil layers extend to elevation 4,214.0.
- 3) Design tip elevation for Lateral Load is typically provided by SD.

PROJECT INFORMATION

Standard Special Provisions S5-280, "Project Information," discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is an excerpt from SSP S5-280 disclosing information originating from Geotechnical Services. Items listed to be included in the Information Handout will be provided in Acrobat (.pdf) format to the addressee(s) of this report via electronic mail.

Data and information attached with the project plans are:

- A. Log of Test Borings for North Fork Ash Creek Bridge, Bridge Number 03-0060.

Data and information included in the Information Handout provided to the bidders and contractors are:

- A. Foundation Report for North Fork Ash Creek Bridge, Bridge Number 03-0060, dated July 15, 2010.
- B. Addendum to Foundation Recommendations for North Fork Ash Creek Bridge, Bridge Number 03-0060, dated August 24, 2010.

Any questions regarding the above recommendations should be directed to John L. Thorne at (916)-227-1034 or Xing Zheng at (916) 227-1036.

Report by:



JOHN L. THORNE
Engineering Geologist
Geotechnical Design - North



XING ZHENG, C.E.G. No. 2130
Engineering Geologist
Geotechnical Design - North



exp. 3/31/2011

- C: EricOrr – DPM (E-copy)
- MarkWillian – OGS (E-copy)
- StructureConstruction R.E. Pending (E-copy)
- DES OE OPS&E (E-copy)
- ByronBerger – DME-D02 (E-copy)
- SteveNg – OSH
- GeoDog Archive

State of California - Department of Transportation
Division of Engineering Services
Structure Design Services & Earthquake Engineering

FINAL HYDRAULIC REPORT

North Fork Ash Creek Bridge

Br. No. 03-0026

02 - MOD - 299 - PM 3.38

Located near Adin, California

PROJECT DESCRIPTION:

Proposed Replacement of Existing Structure (EA 02-2C2201)

Prepared by:



Jose J. Vargas, P.E.
Transportation Engineer (Civil)
Structure Hydraulics & Hydrology Branch
August 27, 2008



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General Report Notes:

- 1) *The Vertical Datum Reference for elevations shown in the report is the National Geodetic Vertical Datum of 1929 (NGVD 29), unless otherwise indicated.*
 - 2) *The confluence of the North Fork Ash Creek tributary with Ash Creek is located approximately 1,200 feet downstream of the bridge site. This study did not include any potential backwater effects (if any) from Ash Creek due to insufficient detailed information available at this time.*
-
-

GENERAL INFORMATION

It is proposed to replace the existing bridge structure, North Fork Ash Creek (Br. No. 03-0026), with a new bridge structure due to scour concerns. The bridge site is located approximately 2 miles northeast of Adin, California, along State Route 299. The existing structure has a National Bridge Inspection Standards (NBIS) Item 113 Code rating of "3", which indicates, "*Bridge is scour critical; bridge foundations determined to be unstable for assessed or calculated scour conditions.*"

The existing bridge is a single-span, reinforced concrete (RC) slab on RC cantilever abutments, founded on spread footings. The bridge has wingwalls at both abutments (all four corners), which are also founded on spread footings. The original bridge was built in 1923 and widened in 1948. The existing structure has a length of 24.0 feet and a width of 36.5 feet. Reinforced concrete cut-off walls were constructed at both abutments in 1976 to protect the original foundations from becoming undermined. Recent bridge reports indicate the abutment footings/cut-off walls are exposed at both abutments and some undermining along a portion of the foundation (footing/wall) at Abutment 1 has been observed.

Currently, the proposed replacement is a single-span, cast-in-place, reinforced concrete slab bridge structure, founded on multiple driven-pile extensions. The new structure is proposed to be 46.0 feet in length and 46.8 feet in width. The new structure depth for the proposed bridge is approximately 2 feet - 4 inches.

DESCRIPTION OF WATERSHED

Based on available USGS topographic maps, elevations within the watershed basin vary from approximately 5,680 feet at the higher elevations to 4,220 feet in the valley floor at the bridge site. According to a FEMA Flood Insurance Study (FIS) for the area, the climate in the region is described as high desert, with cold/wet winters and warm/dry summers. The average annual rainfall varies from approximately 35 inches in the higher mountainous areas to 8 inches in the valley area.

Most of the typical flow reaching the bridge site is due to seasonal precipitation and snowpack runoff. Some natural springs in the watershed may also contribute to the natural flows. Native vegetation within the watershed varies along the creek. In the upper reaches, the terrain is mountainous and includes forest areas. In the valley floor, the drainage basin consists mostly of agricultural-type land that is relatively flat in elevation. In the immediate area surrounding the bridge site, typical natural vegetation within the main waterway and immediate banks includes grasses, shrubs, and brush.

Based on a watershed delineation using USGS topographic maps, the estimated watershed drainage basin area above the bridge site was determined to be 6.0 square miles. The maps used were USGS 7.5-Minute Series (Topographic) Quadrangle maps for *Adin* and *Adin Pass, California* (both maps dated 1993).

PEAK DISCHARGES

Peak discharges were determined by using the National Flood Frequency (NFF) Method (Regional Flood-Frequency Analysis) to estimate flow discharges for the bridge site. The 50-year and 100-year frequency discharges for this bridge site were estimated to be 290 cfs and 360 cfs, respectively. The bridge site location is relatively remote and no other detailed hydrologic/hydraulic studies for North Fork Ash Creek were located for comparison purposes.

WATER SURFACE ELEVATIONS

A field survey of the bridge site was completed by Preliminary Investigations (PI) - North Survey Branch in May 2008. Some data from a previous District 2 field survey completed in late 2007 was used to supplement the field survey data obtained in 2008. Using the geometric data provided by the field surveys and information shown on the preliminary General Plan (GP) sheet, a Hydrologic Engineering Center - River Analysis System (HEC-RAS, Version 3.1.3) model was created for the bridge site. Based on photos of the site, Manning's roughness coefficients ("n") are estimated as 0.035 for the main channel and 0.065 for the overbank areas.

Since the existing bridge is significantly shorter in length than the proposed replacement structure, the project will require some excavation of soil at the current Abutment 2 (north end) to provide the new waterway. For the proposed new bridge structure, the channelbed directly underneath the bridge was modeled in HEC-RAS as a graded, trapezoidal channel with 3H:1V side slopes (see further grading details in "OTHER CONSIDERATIONS"). Based on the estimated 50-year and 100-year frequency discharges, the HEC-RAS model calculated the corresponding water surface elevations (WSEL's) of 4,225.1 feet and 4,225.4 feet, respectively. For comparison purposes, several channel section types were modeled in HEC-RAS at the bridge (e.g. flat, v-shaped, etc.), which did not noticeably change the WSEL's at the bridge site.

PEAK VELOCITY

Based on the 100-year frequency discharge and the proposed replacement bridge details, HEC-RAS calculated a local peak (water) velocity of approximately 2 feet per second at the bridge.

WATERWAY CAPACITY & MINIMUM SOFFIT ELEVATION

No records or reports of local historical highwater marks, general localized flooding, or structure overtopping were located for the bridge site. At the existing bridge, there appears to be some (horizontal) contraction scour due to a narrowing of the natural channel at the bridge waterway opening. Cross-section data and photos taken of the bridge when dry show the channelbed directly underneath the bridge is noticeably lower in elevation than just upstream or downstream of the bridge, possibly indicating some localized effects of contraction scour. Considering the longer replacement structure is expected to match the width of the high-flow waterway, the contraction scour effects at the new bridge are assumed to be negligible for this study.

Ash Creek is a regulated stream within jurisdiction of the Central Valley Flood Protection Board (CVFPB), formerly known as the California Reclamation Board. For regulated streams within jurisdiction of the CVFPB, "The bottom members (soffit) of a proposed bridge must be at least three (3) feet above the design flood plane. The required clearance may be reduced to two (2) feet on minor streams at sites where significant amounts of stream debris are unlikely." North Fork Ash Creek is a tributary to Ash Creek and may be subject to the same requirement. Since North Fork Ash Creek is a minor stream and significant

amounts of debris are unlikely, two feet of freeboard was assumed to be appropriate for this bridge site. The recommended minimum soffit elevation for the proposed bridge site is estimated as 4,227.1 feet, which was estimated as the 50-year WSEL plus two feet of freeboard.

DRIFT POTENTIAL

The upper portions of the watershed include forest areas with large trees and other significant potential debris. However, photos of the bridge site indicate the surrounding area is relatively flat, agricultural-type land, which mostly consists of grasses, shrubs, and brush. Photos indicate there are some trees on the valley floor, however, the trees appear to generally be located outside the main channel and immediate overbank areas and would not normally be expected to be carried in the small natural channel.

The longer span of the replacement structure will provide more available waterway capacity (both horizontally and vertically) and is expected to be adequate for the potential typical drift which may be expected to pass through the bridge site. In addition, the existing and proposed bridge structures are both single-span and have no piers in the waterway; therefore, significant drift accumulation is not expected.

LOCAL PIER SCOUR

The existing and proposed bridge structures are both single-span bridges and do not have piers located in the waterway; therefore, local pier scour was not analyzed in this study.

LONG-TERM CHANNELBED TRENDS

Although the original structure was built in 1923 and widened in 1948, no detailed cross-section data was located for any dates prior to 1992. Complete and detailed "As-Built Plans" for the original bridge construction or the widening project were not located.

Based on an estimate of historical channelbed degradation for the existing bridge between 1923 and 2007, an average degradation rate was calculated to forecast future potential long-term degradation at the bridge site. The estimated total amount of degradation was approximately 6.0 feet (depth) for a 75-year period, which is a typical service period for new structures. Since the average degradation rate estimate was based on historical cross-section data for the existing (narrower) bridge, the estimated total degradation would be expected to include any effects of horizontal contraction scour. Based on the longitudinal HEC-RAS channel profile, 2.0 feet is estimated to be due to contraction scour at the existing waterway.

Since the new bridge is significantly longer and is expected to match the high-flow waterway width, the contraction scour effects were assumed to be negligible for the longer replacement bridge. The estimated potential long-term degradation for the longer bridge is 4.0 feet (depth). Based on the existing thalweg elevation at the bridge site, the corresponding potential long-term channelbed elevation is roughly 4,214.0 feet. Lateral thalweg migration to either abutment is possible.

BANK PROTECTION RECOMMENDATIONS

Historical bridge reports indicate issues with the roadway approach/embankment (fill) material washing out behind the existing wingwalls. In 1984, a Supplemental Bridge Report (SBR) noted, "*There is some loss of the roadway embankment fill from behind the left retaining wall at Abutment 2.*" and included a work recommendation to reconstruct the damaged area. A subsequent 1987 SBR noted, "*Earth and rock were placed about all four wingwalls to replace material eroded from the roadway embankment.*" Photos of the site taken during dry periods show some of the rock placed in 1987 is still visible at both abutments.

Wingwalls

The existing structure has wingwalls located at all four corners. It is recommended to include similar wingwalls at all four corners for the new bridge structure. The wingwalls would help protect the new roadway approaches/embankments from potential water-related damage during high-flow events. Hydraulic-based recommendations for the design of the new wingwalls include: 1) design the new wingwall foundations for the estimated long-term degradation elevation, 2) match the existing wingwall angles/orientation for all new wingwalls (shown on "*General Plan and Details*" sheet for the 1948 bridge widening), and 3) lengthen the new wingwalls (at all four corners) to approximately 15 feet. The wingwall recommendations provided are hydraulic-based considerations only and may need to be adjusted for cost reasons, right-of-way limitations, geotechnical requirements, or other factors, as required.

Rock Slope Protection (RSP)

Assuming the new foundations for the replacement structure (and wingwalls) are designed to account for the potential long-term degradation elevation, the new abutment foundations would not require or rely on RSP to protect the new foundations from potential scour/degradation. The RSP recommendations provided in this report (for the District) are intended to provide additional protection for the new roadway approaches/embankments and minimize potential future maintenance. If District decides that RSP measures will not be included for this project, some future maintenance work may be expected at the bridge site.

For this project, it is recommended that District use RSP to construct the side slopes (banks) of the new bridge waterway and along the wingwall faces (in conjunction with channelbed grading). Although the HEC-RAS model estimated the maximum velocity at the new bridge as 2 fps, peak velocities upstream and downstream of the new bridge ranged from 3-7 fps. RSP banks would better resist washing away than the soft, native soil and would also help maintain the thalweg (low-flow channel) near the center of the span.

It is recommended for District to consider using RSP along both main channel banks (side slopes), both upstream and downstream of the bridge. (*Refer to "Channel Alignment" below for more information.*)

Since the new longer replacement bridge is expected to match the high-flow waterway, the wingwalls may be sufficient to protect the new embankment (fill) from washing out. However, District may also consider adding RSP at the new roadway approaches/embankments to provide additional protection.

Channel Alignment

The existing high-flow channel approaches the existing bridge site at a slight bend or angle. To better align the main channel/waterway with the new bridge opening and help prevent the thalweg from potentially migrating further south (toward the new abutment embankment) in the future, it is recommended for District to consider using channel bank protection (RSP) along the main channel banks (side slopes).

If District decides to incorporate RSP for the channel banks, it is recommended that RSP be placed along both left/right banks and upstream/downstream of the new bridge to provide continuity of RSP along this section of channel. The RSP should be placed using 3H:1V side slopes to match the RSP placed along the abutment faces and wingwalls. (The 3H:1V slope is approximate and may be adjusted to better match the existing slopes.) The recommended minimum limits for the RSP along the channel banks is the State right-of-way. However, if extending the RSP limits further upstream or downstream than the existing State right-of-way boundary is necessary, additional right-of-way may be required. Similar channelbed grading as described in "*OTHER CONSIDERATIONS*" is recommended between the channel banks. The RSP along the channel banks would be placed in conjunction with any required excavation and channel work required to provide the longer bridge waterway.

OTHER CONSIDERATIONS

The limits (extents) and design recommendations for channel excavation, channel grading, and RSP design are approximate and may be adjusted to match the State right-of-way limits or due to other factors (i.e. environmental restrictions, etc.), if practical. Structure-Hydraulics can assist the District with RSP design recommendations.

Bridge Skew

Based on aerial photographs and survey data of the bridge site, the existing bridge skew of 30° (Right) appears to be suitable for the site and is recommended for the new proposed bridge replacement.

Location of BB Station

It is recommended that the Beginning of Bridge (BB) station for the new bridge is shifted south of the existing BB location by roughly 3 feet to better accommodate the estimated high-flow waterway.

Channelbed Grading

Given that some excavation will be required during construction to relocate Abutment 2 and provide the longer waterway, it is recommended to provide some final channelbed grading underneath the new structure and within the areas between the new wingwalls. It is recommended the final channelbed is graded as a trapezoidal-shaped channel section with a bottom of channel elevation of roughly 4,220 feet, top of bank elevations (at both abutment/wingwall faces) of roughly 4,223 feet, and bank side slopes of 3H:1V. Rock slope protection (RSP) should be used to construct the side slopes/channel banks in the new waterway. If other channel section types are more practical at this site for other reasons (e.g. cost, environmental requirements/restrictions, etc.), the final grading of the channelbed and waterway may be adjusted.

Recent Restoration Project in 2007

According to the Pit River Watershed Alliance website, a recent restoration project was completed in late 2007 along North Fork Ash Creek and Dutch Flat Creek. The indicated project limits for North Fork Ash Creek was roughly 300 feet upstream of the bridge site and continued roughly 1,200 feet further upstream. The project used a "pond and plug technique" which involved backfilling a section of the natural channel with earthen material to encourage flows to pond and overbank into the local floodplains and into a "remnant channel". Some of the flow would be expected to re-enter the natural creek and continue toward the bridge site. For the purpose of this study, the assumption was made that this restoration project does not exist. The study conservatively assumed the full estimated discharges reach the bridge site without retention.

SUMMARY INFORMATION FOR THE BRIDGE DESIGNER

NOTE: The Vertical Datum Reference for elevations shown in the report is the National Geodetic Vertical Datum of 1929 (NGVD 29), unless otherwise indicated.

Thalweg Elevation (at upstream face of bridge)	4,218.0 feet
Potential Long-Term Channelbed Degradation (Depth)*	4.0 feet*
Potential Long-Term Channelbed Degradation (Elevation)*	4,214.0 feet*
Recommended Minimum Soffit Elevation (WSEL ₅₀ + 2.0 feet of freeboard)	4,227.1 feet
Local Peak (Water) Velocity at the Bridge (Based on the 100-Year Discharge)	2 feet per second

* Assumed lateral channel thalweg migration to either abutment is possible.

Hydrologic / Hydraulic Summary

Total Drainage Basin Area: 6.0 square miles

	Design Flood	Base Flood	Overtopping Flood
Frequency, years	50	100	N/A**
Discharge, cfs	290	360	N/A**
Water Surface Elevation at Bridge, feet	4,225.1	4,225.4	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.

** "Overtopping Flood" values were not provided for this bridge site since the surrounding flat/wide floodplain in the valley would flood first before raising the local WSEL sufficiently to overtop the existing structure (i.e. an accurate estimate would be difficult to determine).

REFERENCES

- 1) California Department of Transportation (CALTRANS) - Bridge Inspection Reports (BIR's), Supplemental Bridge Reports (SBR's), Bridge File, As-Built Plans, Photos, Digital Highway Inventory Photography Program (DHIPP) - aerial photos, Preliminary General Plan (GP) Sheet dated 4/25/08
- 2) United States Geological Survey (USGS), 7.5-Minute Series (Topographic) Quadrangle maps for Adin and Adin Pass, California (both maps dated 1993)
Vertical Datum: National Geodetic Vertical Datum of 1929 (NGVD 29)
- 3) Federal Emergency Management Agency (FEMA) Flood Insurance Study (FIS) Modoc County, CA - Unincorporated Areas - Community Number 060192
(Last Revised: October 20, 1999)
- 4) Federal Emergency Management Agency (FEMA) flood maps
- 5) Other available documentation/records available at this time:
 - Google Maps <http://maps.google.com/>
 - The Pit River Watershed Alliance website
<http://www.pitriveralliance.net/pitrwd/projects/projects.html>