

# INFORMATION HANDOUT

For Contract No. 01-497714

At 01-Men-1-2.3/2.5

Identified by  
Project ID 0100020262

## PERMITS

United States Army Corps of Engineers

Non-Reporting Nationwide 404

County of Mendocino - Department of Planning and Building Services

Final Findings and Conditions of Approval - CDP 2014-0019 Caltrans

## WATER QUALITY

California Regional Water Quality Control Board

North Coast Region

[WDID No. 1B14026WNME, ECM PIN CW - 804904](#)

## AGREEMENTS

California Department of Fish and Wildlife: [Lake or Streambed Alteration Agreement](#)

Notification No. [1600-2014-0078-R1](#)

01-497714  
01-Men-1-2.3/2.5  
Project ID 0100020262

## **MATERIALS INFORMATION**

Summary of Foundation Recommendation Reports

Foundation Report for the Big Gulch Retaining Wall- dated June 27, 2014

United States Army Corps of Engineers  
Non-Reporting Nationwide 404

Department of the Army, San Francisco District,  
U.S. Army Corps of Engineers

Dated: January 29, 2015



**DEPARTMENT OF THE ARMY**  
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS  
1455 MARKET STREET, 16<sup>th</sup> Floor  
SAN FRANCISCO, CALIFORNIA 94103-1398

JAN 29 2015

Regulatory Division

SUBJECT: File No. 2014-00436N

Mr. Frank Demling  
California Department of Transportation District 1  
2430 6<sup>th</sup> Street  
Eureka, CA 95501

Dear Mr. Demling:

This letter is in reference to your submittal received December 15, 2014, concerning Department of the Army (Corps) permit authorization to construct a soldier pile retaining wall, reconstruct the roadway, and improve drainage along the highway. The construction staging area location is along the west side of the roadway extending 100-feet north of the proposed retaining wall. No right-of-way acquisition is required as work occurs within the existing right-of-way. The project location is: between Post Mile (PM) 2.34 to 2.53, (Lat. 38.783325, Long. 123.551122) about 1.75 miles north of the town of Gualala, Mendocino County, California.

Work between PM 2.34 to 2.53 involves the failing roadway to be excavated and reconstructed. Work entails grinding off the existing asphalt concrete road surface and removing underlying aggregate base, compacting existing soils, and placing new aggregate base and asphalt concrete. From PM 2.41 and 2.44, the travel-way will be increased from 11.5 feet to 12 feet wide. Currently, the shoulders measure from 4 feet to no shoulder. Equipment to be used during this portion of construction may include backhoes, dump trucks, loaders, concrete/asphalt saws, excavators, and hand-operated pneumatic jackhammers.

Construction between PM 2.41 and 2.44 includes the proposed cantilever soldier pile retaining wall to be installed below the roadway. The wall is planned to be 150 feet in length and 10 feet in height. All piles will be installed using cast in drilled hole methods, therefore no pile driving is required. Work includes fill behind the wall and the construction of a new metal beam guard rail (MBGR) along the western portion of roadway. The only structure visible from the roadway will be the new MBGR.

Construction between PM 2.41 and 2.44 on the east side of the roadway includes installation of a 30-inch cross culvert to be moved approximately 18.3 feet south of its current location. The culvert is proposed to cross under the roadway to the west, where a new down drain (DD) is proposed to be installed at the outlet. A DD is an exposed length of culvert angled to the slope

of the receiving area to dissipate energy of the outflow and reduce its erosive potential. A DD is connected to the outlet of the culvert with an elbow and is held in place with a cable anchor and typically anchored to the culvert in the trench inside the road. This culvert carries an un-named perennial stream that originates from a seep or spring on a nearby hill slope. The new culvert system is planned to be constructed in-kind.

Work within U.S. Army Corps of Engineers' (Corps) jurisdiction would include impacts to Section 404 waters that temporarily impact 0.0011-acre of waters/wetlands (0.0002 wetlands and 0.0009 waters). Impacts would result from the above-mentioned improvements and installation of about 5 cubic yards of fill. All work shall be completed as indicated in the drawings entitled: "Layout," sheets 1-2, submitted to our office on December 15, 2014 (enclosure 1).

Section 404 of the Clean Water Act (CWA) generally regulates the discharge of dredged or fill material below the plane of ordinary high water in non-tidal waters of the United States, below the high tide line in tidal waters of the United States, and within the lateral extent of wetlands adjacent to these waters. A Preliminary Jurisdictional Determination (JD) has been completed for your site. Preliminary JD's are written indications that there may be waters of the U.S. on a parcel or indications of the approximate location(s) of waters of the U.S. on a parcel. The enclosed delineation map entitled, "USACE File #2014-00436, Big Gulch Storm Damage Repair Project Preliminary Jurisdictional Determination" in one sheet, dated December 15, 2014 (enclosure 2), depicts the extent and location of wetlands and other waters of the United States within the boundary area of the site that **may be** subject to U.S. Army Corps of Engineers' regulatory authority under Section 404 of the Clean Water Act. The basis for this preliminary jurisdictional determination is fully explained in the enclosed *Preliminary Jurisdictional Determination Form*. You are requested to sign and date this form and return it to this office within two weeks of receipt.

You are advised that the preliminary jurisdictional determination may **not** be appealed through the U.S. Army Corps of Engineers' *Administrative Appeal Process*, as described in 33 C.F.R. Section 331 (65 Fed. Reg. 16,486; Mar. 28, 2000). Under the provisions of 33 C.F.R. Section 331.5(b)(9), non-appealable actions include preliminary jurisdictional determinations since they are considered to be only advisory in nature and make no definitive conclusions on the jurisdictional status of the water bodies in question. However, you may request this office to provide an approved jurisdictional determination that precisely identifies the scope of jurisdictional waters on the site; an approved jurisdictional determination may be appealed through the *Administrative Appeal Process*. If you anticipate requesting an approved jurisdictional determination at some future date, you are advised not to engage in any on-site grading or other construction activity in the interim to avoid potential violations and penalties under Section 404 of the Clean Water Act. Finally, you may provide this office new information for further consideration and request a reevaluation of this preliminary jurisdictional determination.

Based on a review of the information you submitted, your project qualifies for authorization under Department of the Army Nationwide Permit (NWP) 14 *Linear Transportation Projects*, 77 Fed. Reg. 10,184, February 21, 2012 (enclosure 3), pursuant to Section 404 of the CWA of 1972, as amended (33 U.S.C. § 1344 *et seq.*). The project must be in compliance with the terms of the NWP, the general conditions of the Nationwide Permit Program, and the San Francisco District regional conditions cited in enclosure 4. You must also be in compliance with any special conditions specified in this letter for the NWP authorization to remain valid. Non-compliance with any term or condition could result in the revocation of the NWP authorization for your project, thereby requiring you to obtain an Individual Permit from the Corps. This NWP authorization does not obviate the need to obtain other State or local approvals required by law.

This verification will remain valid until March 18, 2017, unless the NWP authorization is modified, suspended, or revoked. Activities which have commenced (i.e., are under construction) or are under contract to commence in reliance upon a NWP will remain authorized provided the activity is completed within 12 months of the date of a NWP's expiration, modification, or revocation, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend, or revoke the authorization in accordance with 33 C.F.R. § 330.4(e) and 33 C.F.R. §§ 330.5 (c) or (d). This verification will remain valid if, during the time period between now and March 18, 2017, the activity complies with any subsequent modification of the NWP authorization. The Chief of Engineers will periodically review NWPs and their conditions and will decide to either modify, reissue, or revoke the permits. If a NWP is not modified or reissued within five years of its effective date, it automatically expires and becomes null and void. It is incumbent upon you to remain informed of any changes to the NWPs. Changes to the NWPs would be announced by Public Notice posted on our website (<http://www.spn.usace.army.mil/Missions/Regulatory.aspx>). Upon completion of the project and all associated mitigation requirements, you shall sign and return the Certification of Compliance (enclosure 5) verifying that you have complied with the terms and conditions of the permit.

General Condition 18 stipulates that project authorization under a NWP does not allow for the incidental take of any federally-listed species in the absence of a biological opinion with incidental take provisions. As the principal federal lead agency for this project, the Caltrans (through an agreement with Federal Highways) initiated consultation with the U.S. Fish and Wildlife Service (FWS) to address project related impacts to listed species, pursuant to Section 7(a) of the Endangered Species Act of 1973, as amended, 16 U.S.C. § 1531 *et seq.* By letter of November 8, 2013, FWS concurred with the determination that the project was not likely to adversely affect California red-legged frogs and designated critical habitat for this species.

To ensure compliance with this NWP authorization and to further minimize adverse impacts to water quality and other aquatic resources, including federally listed threatened and endangered species and designated critical, the project is subject to the following Special Conditions:

1. The FWS concurred with the determination that the project was not likely to adversely affect the California red-legged frog. This concurrence was premised, in part, on project minimization measures outlined on pages 6-7 of the Pre-Construction Notification (PCN) dated March 13, 2014 (enclosure 6). These minimization measures are incorporated as special conditions to the NWP authorization for your project to ensure project impacts to listed species are minimized.
2. Best management practices (BMP's) shall be implemented including installation of silt fences, straw bales, gravel bags, and fiber rolls, if appropriate. Placement of these materials will control sediment discharge and minimize sediment release into receiving waters.
3. Fueling activities will occur in designated upland locations.
4. No concrete washings or water from concrete will be allowed to flow into waterways. No concrete will be poured within flowing water in waterways. Waste management best management practices will be implemented.
5. No debris, sand, silt, trash, concrete or washings thereof, oil or other petroleum products or washings thereof, or other foreign materials shall be allowed to enter or be placed where it may be washed by rainfall or runoff into waters of the U.S. Upon project completion, any and all excess construction materials, debris, and/or other excess project materials shall be removed to an appropriate upland disposal site.
6. All construction materials (new and old) shall be stored in a contained area in the staging area.
7. All debris shall be transported to an appropriate disposal landfill.
8. The permittee shall restore all temporarily impacted areas to pre-construction contours. All disturbed areas shall be revegetated with pre-existing and/or native wetland vegetation.

You may refer any questions on this matter to Carol Heidsiek of our Regulatory staff by telephone at 707-443-0855 or by email at Carol.A.Heidsiek@usace.army.mil. All correspondence should be addressed to the Regulatory Division, North Branch, Eureka Field

Office, 601 Startare Drive, Box 14, Eureka, California 95501, referencing the file number at the head of this letter.

The San Francisco District is committed to improving service to our customers. My Regulatory staff seeks to achieve the goals of the Regulatory Program in an efficient and cooperative manner, while preserving and protecting our nation's aquatic resources. If you would like to provide comments on our Regulatory Program, please complete the Customer Service Survey Form available on our website: <http://www.spn.usace.army.mil/Missions/Regulatory.aspx>

Sincerely,



*JM* Jane M. Hicks  
Chief, Regulatory Division

Enclosures

Copies Furnished (w/o encls):

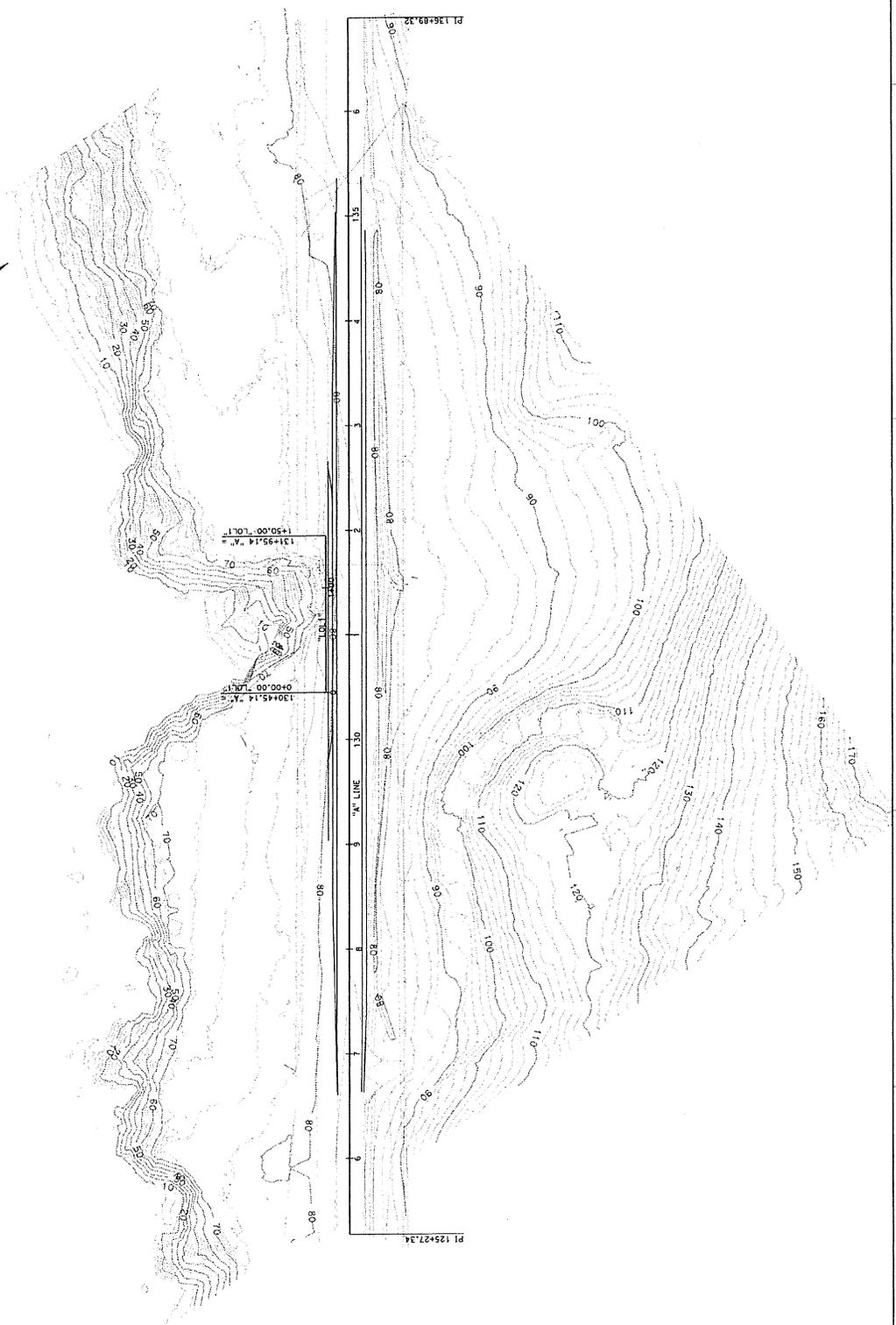
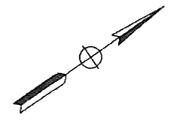
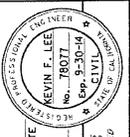
USFWS, Arcata, CA  
CA RWQCB, Santa Rosa, CA  
CDFW, Eureka, CA

Dist#	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET TOTAL SHEETS
01	Men	1	2-3/2-5	

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA DIVISION OF TRANSPORTATION  
 DIVISION OF ENGINEERING  
 THE COUNTY OF CALIFORNIA  
 I HEREBY APPROVE AND ACCEPT THIS PLAN SHEET.



LAYOUT  
 SCALE: 1" = 50'

L-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	K. KEATON	CHECKED BY	DATE REVISED
ST. Gilman's	DIVISION OF ENGINEERING		DESIGNED BY	
NORTH REGION				

POST MILES SHEET TOTAL  
TOTAL PROJECT NO. SHEETS

COUNTY ROUTE

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED CIVIL ENGINEER DATE

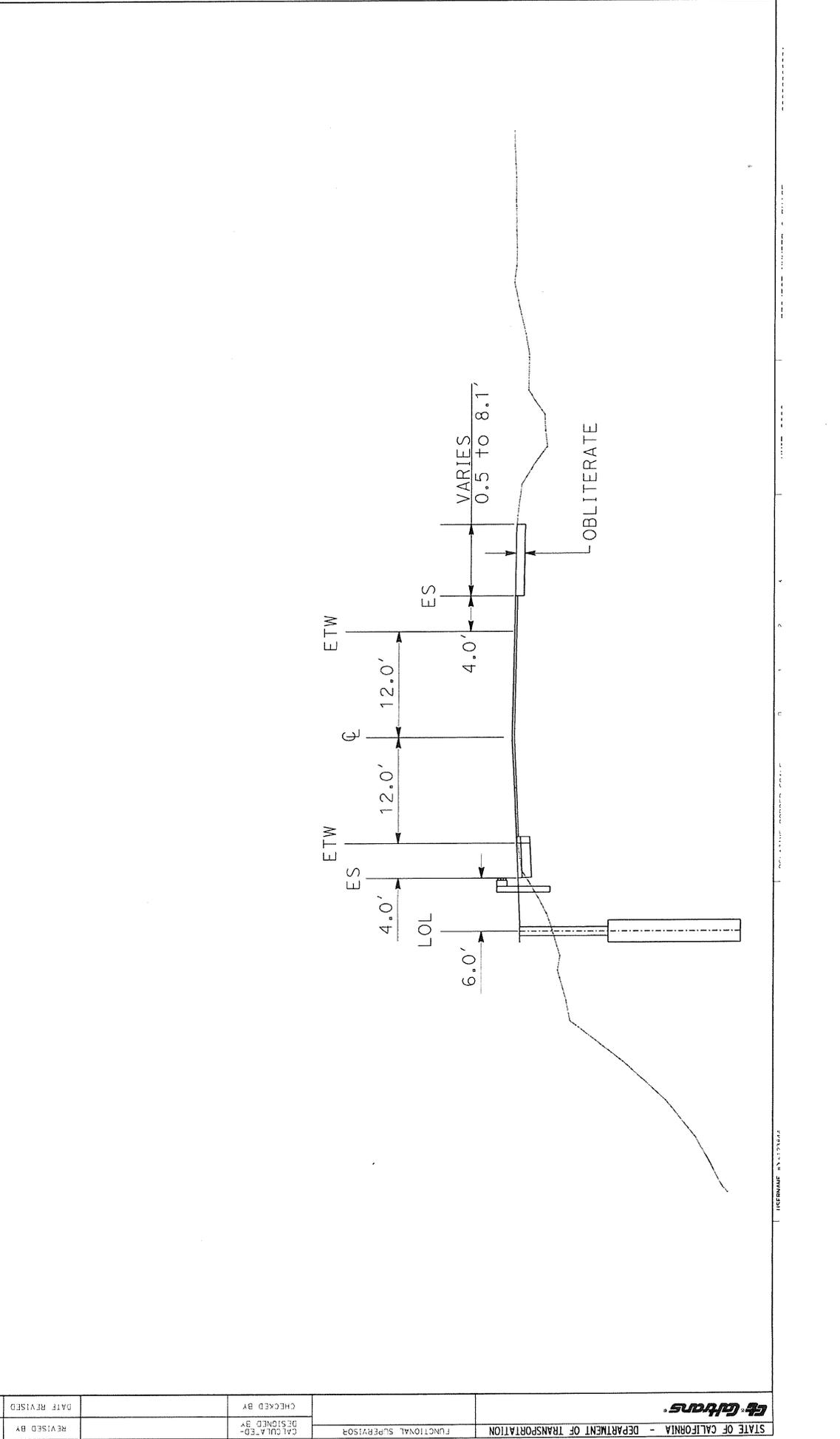
PLANS APPROVAL DATE

REGISTERED CIVIL ENGINEER DATE



REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALIFORNIA REGISTERED CIVIL ENGINEER	DATE REVISED	DATE REVISED
ST. Gilman		CHECKED BY		



Acres of Waters of the U.S.

PS 1 0.0009  
 WL 1 0.016

**Legend**

- Data Points
- PS 1
- Culvert
- WL-1
- ESL

Big Gulch Storm Damage Repair Project  
 EA: 01-49771  
 Mendocino County, California  
 At: State Route 1, Post Miles 2.35 / 2.5

Delineation performed by:  
 Kenneth Russo & Sean Marquis  
 Map prepared by Caltrans  
 on November 22, 2013

**Wetlands**  **Other Waters**

**Project Boundary**

**FILE NO:** 2014-00436 **DATE:** 1/12/15

**California** Preliminary Jurisdictional Determination  
 (PJD) Pursuant to Section 404 of the CWA  
**US Army Corp of Engineers** San Francisco Dist  
 Regulatory Branch  
 Storm Repair PJD at PM 2.34-2.53, Gualala  
 Mendocino County, CA. (Lat. 38.783325,  
 Long. 123.825775).



USGS' Gualala 7.5 minute quadrangle  
 Scale: 1:720  
 1 inch = 60 feet  
**Delineation of Waters of the U.S.**

# PRELIMINARY JURISDICTIONAL DETERMINATION FORM

## San Francisco District

This Preliminary Jurisdictional Determination finds that there "may be" waters of the United States in the subject review area and identifies all such aquatic features, based on the following information:

Regulatory Division: North Branch

File Number: 2014-00436-Select

PJD Completion Date: 12/15/14

### Review Area Location

City/County: Gualala, Mendocino State: California  
Nearest Named Waterbody: Tributary to Pacific Ocean  
Approximate Center Coordinates of Review Area  
Latitude (degree decimal format): 38.783325°N  
Longitude (degree decimal format): -123.551122°W  
Approximate Total Acreage of Review Area: 2.0 acres

File Name: 2014-00436

### Applicant or Requestor Information

Name: Frank Demling  
Company Name: California Department of Transportation  
Street/P.O. Box: 2430 6th St.  
City/State/Zip Code: Eureka, CA 95501

### Estimated Total Amount of Waters in Review Area

Non-Wetland Waters: lineal feet feet wide and/or  
0.0009 acre(s) Flow Regime: Perennial

Wetlands: lineal feet feet wide and/or  
0.0002 acre(s) Cowardin Class: Riverine

### Name of Section 10 Waters Occurring in Review Area

Tidal:  
Non-Tidal:

Office (Desk) Determination

Field Determination:

Date(s) of Site Visit(s): 12/15/14

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

- Maps, Plans, plots or plat submitted by or on behalf of applicant/requestor (specify): All items presented within the Big Gulch Storm Project, Delineation of Wetlands and Waters of the United States and State, March 2014
- Data sheets submitted by or on behalf of applicant/requestor (specify): Data Sheets submitted within the Big Gulch Storm Project, Delineation of Wetlands and Waters of the United States and State, March 2014
  - Corps concurs with data sheets/delineation report.
  - Corps does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps.
- Corps navigable waters' study (specify):
- U.S. Geological Survey Hydrologic Atlas:
  - USGS NHD data.
  - USGS HUC maps.
- U.S. Geological Survey map(s) (cite quad name/scale): Gualala 7.5-minute topographic quadrangle map
- USDA Natural Resources Conservation Service Soil Survey.
- National wetlands inventory map(s) (specify): USFWS National Wetland Inventory August 2013
- State/Local wetland inventory map(s) (specify):
- FEMA/FIRM maps.
- 100-year Floodplain Elevation (specify, if known):
- Photographs:  Aerial (specify name and date): NAIP 2010
  - Other (specify name and date): Site photographs June 2013
- Previous JD determination(s) (specify File No. and date of response letter):
- Other information (specify): Project is temporarily impacting 0.0011-acre other waters/wetlands (0.0009 waters and 0.0002 wetlands).

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

Signature and Date of Regulatory Project Manager  
(REQUIRED)

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



#### 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 preconstruction elevations. The areas affected by temporary fills must be revegetated, as appropriate. This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

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

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

## Nationwide Permit General Conditions

1. Navigation
2. Aquatic Life Movements
3. Spawning Areas
4. Migratory Bird Breeding Areas
5. Shellfish Beds
6. Suitable Material
7. Water Supply Intakes
8. Adverse Effects From Impoundments
9. Management of Water Flows
10. Fills Within 100-Year Floodplains
11. Equipment
12. Soil Erosion and Sediment Controls
13. Removal of Temporary Fills
14. Proper Maintenance
15. Single and Complete Project
16. Wild and Scenic Rivers
17. Tribal Rights
18. Endangered Species
19. Migratory Birds and Bald and Golden Eagles
20. Historic Properties
21. Discovery of Previously Unknown Remains and Artifacts
22. Designated Critical Resource Waters
23. Mitigation
24. Safety of Impoundment Structures
25. Water Quality
26. Coastal Zone Management
27. Regional and Case-By-Case Conditions
28. Use of Multiple Nationwide Permits
29. Transfer of Nationwide Permit Verifications
30. Compliance Certification
31. Pre-Construction Notification

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

**1. Navigation.** (a) No activity may cause more than a minimal adverse effect on navigation. (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States. (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the

structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

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

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

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

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

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

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

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

**9. Management of Water Flows.** To the maximum extent practicable, the preconstruction 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 preconstruction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

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

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

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

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

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

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

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

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

**18. Endangered Species.** (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed. (b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address ESA compliance for the NWP activity, or whether additional ESA consultation is necessary. (c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect federally listed endangered or threatened species or designated critical habitat, the pre-construction notification must include

the name(s) of the endangered or threatened species that might be affected by the proposed work or that utilize the designated critical habitat that might be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps. (d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWP. (e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, The Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering. (f) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide web pages at <http://www.fws.gov/> or <http://www.fws.gov/ipac> and <http://www.noaa.gov/fisheries.html> respectively.

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

**20. Historic Properties.** (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied. (b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address section 106 compliance for the NWP activity, or whether additional section 106 consultation is necessary. (c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the preconstruction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National

Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties on which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed. (d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete preconstruction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps. (e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/ THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

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

**22. Designated Critical Resource Waters.** Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment. (a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including

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

**23. Mitigation.** The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal: (a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site). (b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal. (c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require preconstruction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse effects of the proposed activity are minimal, and provides a project-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332. (1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in minimal adverse effects on the aquatic environment. (2) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered. (3) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2)–(14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)). (4) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided. (5) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan. (d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream rehabilitation, enhancement, or preservation, to ensure that the activity results in minimal adverse effects on the aquatic environment. (e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWP's. 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 NWP's. (f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the restoration or establishment, maintenance,

and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to establish a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or establishing a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses. (g) Permittees may propose the use of mitigation banks, in-lieu fee programs, or separate permittee-responsible mitigation. For activities resulting in the loss of marine or estuarine resources, permittee-responsible compensatory mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management. (h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

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

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

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

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

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

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

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

\_\_\_\_\_  
(Transferee)

\_\_\_\_\_  
(Date)

**30. Compliance Certification.** Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include: (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions; (b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and (c) The signature of the permittee certifying the completion of the work and mitigation.

**31. Pre-Construction Notification—(a) Timing.** Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either: (1) He or she is notified in writing

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

(b) *Contents of Pre-Construction Notification:* The PCN must be in writing and include the following information: (1) Name, address and telephone numbers of the prospective permittee; (2) Location of the proposed project; (3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause, including the anticipated amount of loss of water of the United States expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans); (4) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate; (5) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse effects are minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan. (6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and (7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National

Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act. (c) *Form of Pre-Construction Notification*: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used. (d) *Agency Coordination*: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWP's and the need for mitigation to reduce the project's adverse environmental effects to a minimal level. (2) For all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States, for NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of intermittent and ephemeral stream bed, and for all NWP 48 activities that require pre-construction notification, the district engineer will immediately provide (e.g., via email, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the preconstruction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWP's, including the need for mitigation to ensure the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5. (3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act. (4) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of preconstruction notifications to expedite agency coordination.

## San Francisco District Regional Conditions

### A. General Regional Conditions that apply to all NWP's in the Sacramento, San Francisco, and Los Angeles Districts:

1. When pre-construction notification (PCN) is required, the permittee shall notify the U.S. Army Corps of Engineers, San Francisco District (Corps) in accordance with General Condition 31 using either the South Pacific Division Preconstruction Notification (PCN) Checklist or a signed application form (ENG Form 4345) with an attachment providing information on compliance with all of the General and Regional Conditions. In addition, the PCN shall include:
  - a. A written statement describing how the activity has been designed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States;
  - b. Drawings, including plan and cross-section views, clearly depicting the location, size and dimensions of the proposed activity, as well as the location of delineated waters of the U.S. on the site. The drawings shall contain a title block, legend and scale, amount (in cubic yards) and area (in acres) of fill in Corps jurisdiction, including both permanent and temporary fills/structures. The ordinary high water mark or, if tidal waters, the mean high water mark and high tide line, should be shown (in feet), based on National Geodetic Vertical Datum (NGVD) or other appropriate referenced elevation. All drawings for activities located within the boundaries of the Los Angeles District shall comply with the September 15, 2010 Special Public Notice: *Map and Drawing Standards for the Los Angeles District Regulatory Division*, (available on the Los Angeles District Regulatory Division website at: [www.spl.usace.army.mil/regulatory/](http://www.spl.usace.army.mil/regulatory/)); and
  - c. Numbered and dated pre-project color photographs showing a representative sample of waters proposed to be impacted on the site, and all waters of the U.S. proposed to be avoided on and immediately adjacent to the activities site. The compass angle and position of each photograph shall be identified on the plan-view drawing(s) required in subpart b of this Regional Condition.
2. The permittee shall submit a PCN, in accordance with General Condition 31, For all activities located in areas designated as Essential Fish Habitat (EFH) by the Pacific Fishery Management Council (i.e., all tidally influenced areas - Federal Register dated March 12, 2007, 72 C.F.R. 11,092, in which case the PCN shall include an EFH assessment and extent of proposed impacts to EFH. Examples of EFH habitat assessments can be found at: <http://www.swr.noaa.gov/efh.htm>.
3. For activities in which the Corps designates another Federal agency as the lead for compliance with Section 7 of the Endangered Species Act (ESA) of 1973 as amended, 16 U.S.C. §§ 1531-1544, Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act (EFH), 16 U.S.C. § 1855(b)(4)(B) and/or Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, 16 U.S.C. §§ 470-470h, the lead Federal agency shall provide all relevant documentation to the appropriate Corps demonstrating any previous consultation efforts, as it pertains to the Corps Regulatory permit area (for Section 7 and EFH compliance) and the Corps Regulatory area of potential effect (APE) (for Section 106 compliance). For activities requiring a PCN, this information shall be submitted with the PCN. If the Corps does not designate another Federal agency as the lead for ESA, EFH and/or NHPA, the Corps will initiate consultation for compliance, as appropriate.

4. For all activities in waters of the U.S. that are suitable habitat for Federally-listed fish species, the permittee shall design all road crossings to ensure that the passage and/or spawning of fish is not hindered. In these areas, the permittee shall employ bridge designs that span the stream or river, including pier- or pile-supported spans, or designs that use a bottomless arch culvert with a natural stream bed unless determined to be impracticable by the Corps.
5. The permittee shall complete the construction of any compensatory mitigation required by special condition(s) of the NWP verification before or concurrent with commencement of construction of the authorized activity, except when specifically determined to be impracticable by the Corps. When mitigation involves use of a mitigation bank or in-lieu fee program, the permittee shall submit proof of payment to the Corps prior to commencement of construction of the authorized activity.
6. Any requests to waive the 300 linear foot limitation for intermittent and ephemeral streams for NWPs 21, 29, 39, 40, 42, 43, 44, 50, 51 and 52, or to waive the 500 linear foot limitation along the bank for NWP 13, must include the following:
  - a. A narrative description of the stream. This should include known information on: volume and duration of flow; the approximate length, width, and depth of the waterbody and characteristics observed associated with an Ordinary High Water Mark (e.g. bed and bank, wrack line or scour marks); a description of the adjacent vegetation community and a statement regarding the wetland status of the adjacent areas (i.e. wetland, non-wetland); surrounding land use; water quality; issues related to cumulative impacts in the watershed, and; any other relevant information;
  - b. An analysis of the proposed impacts to the waterbody, in accordance with General Condition 31;
  - c. Measures taken to avoid and minimize losses to waters of the U.S., including other methods of constructing the proposed activity(s); and
  - d. A compensatory mitigation plan describing how the unavoidable losses are proposed to be offset, in accordance with 33 CFR 332.

**B. General Regional Conditions that apply to all NWPs in the San Francisco District:**

1. Notification to the Corps (in accordance with General Condition No. 31) is required for any activity permitted by NWP if it will take place in waters or wetlands of the U.S. that are within the **San Francisco Bay diked baylands** (see figure 1) (undeveloped areas currently behind levees that are within the historic margin of the Bay. Diked historic baylands are those areas on the Nichols and Wright map below the 5-foot contour line, National Geodetic Vertical Datum (NGVD) (see Nichols, D.R., and N. A. Wright. 1971. Preliminary map of historic margins of marshland, San Francisco Bay, California. U.S. Geological Survey Open File Map)). The notification shall explain how avoidance and minimization of losses of waters or wetlands are taken into consideration to the maximum extent practicable (see General Condition 23).
2. Notification to the Corps (in accordance with General Condition No. 31) is required for any activity permitted by NWP if it will take place in waters or wetlands of the U.S. that are within the **Santa Rosa Plain** (see figure 2). The notification will explain how avoidance and minimization of losses of waters or wetlands are taken into consideration to the maximum extent practicable in accordance with General Condition No. 23.
3. Notification to the Corps (in accordance with General Condition No. 31), including a compensatory mitigation plan, habitat assessment, and extent of proposed-project impacts

to Eelgrass Beds are required for any activity permitted by NWP if it will take place within or adjacent to **Eelgrass Beds**.

**C. Regional Conditions that apply to specific NWPs in the San Francisco District:**

**3. MAINTENANCE:**

1. To the extent practicable, excavation equipment shall work from an upland site (e.g., from the top of the bank, the road bed of the bridge, or culverted road crossing) to minimize adding fill into waters of the U.S. If it is not practicable to work from an upland site, or if working from the upland site would cause more environmental damage than working in the stream channel, the excavation equipment can be located within the stream channel but it must minimize disturbance to the channel (other than the removal of accumulated sediments or debris). As part of the notification to the Corps (in accordance with General Condition No. 31), an explanation as to the need to place excavation equipment in waters of the U.S. is required, as well as a statement of any additional necessary fill (e.g., cofferdams, access road, fill below the OHW mark for a staging area, etc.).
2. If the activity is proposed in a special aquatic site, the notification to the Corps (in accordance with General Condition No. 31) shall include an explanation of why the special aquatic site cannot be avoided, and the measures to be taken to minimize impacts to the special aquatic site.

**11. TEMPORARY RECREATIONAL STRUCTURES:**

1. Notification to the Corps (in accordance with General Condition No. 31) is required if any temporary structures are proposed in wetlands or vegetated shallow water areas (e.g. in eelgrass beds). The notification shall include the type of habitat and areal extent affected by the structures.

**12. UTILITY LINE ACTIVITIES:**

1. Excess material removed from a trench, associated with utility line construction, shall be disposed of at an upland site away from any wetlands or other waters of the U.S. so as to prevent this material from being washed into aquatic areas.
2. This NWP permit does not authorize the construction of substation facilities. Utility line substations can usually be constructed in uplands.

**13. BANK STABILIZATION:**

1. Notification to the Corps (in accordance with General Condition No. 31) is required for all activities stabilizing greater than 300 linear feet of channel. Where the removal of wetland vegetation (including riparian wetland trees, shrubs and other plants) or submerged, rooted, aquatic plants over a cumulative area greater than 1/10 acre or 300 linear feet is proposed, the Corps shall be notified (in accordance with General Condition No. 31). The notification shall include the type of vegetation and extent (e.g., areal dimension or number of trees) of the proposed removal. The notification shall also address the effect of the bank stabilization on the stability of the opposite side of the streambank (if it is not part of the stabilization activity), and on adjacent property upstream and downstream of the activity.
2. This permit allows excavating a toe trench in waters of the U.S., and, if necessary, to use the material for backfill behind the stabilizing structure. Excess material is to be disposed of in a manner that will have only minimal impacts to the aquatic environment. The notification to the Corps (in accordance with General Condition No. 31) shall include location of the disposal site.
3. For man-made banks, roads, or levees damaged by storms or high flows, the one cubic yard per running foot limit is counted only for that additional fill which encroaches (extends) beyond the pre-flood or pre-storm shoreline condition of the waterway. It is not counted for

the fill that would be placed to reconstruct the original dimensions of the eroded, man-made shoreline.

4. For natural berms and banks, the one cubic yard per running foot limit applies to any added armoring.
5. To the maximum extent practicable, any new or additional bank stabilization must incorporate structures or modifications beneficial to fish and wildlife (e.g., soil bioengineering or biotechnical design, root wads, large woody debris, etc.). Where these structures or modifications are not used, the applicant shall demonstrate why they were not considered practicable.

#### **14. LINEAR TRANSPORTATION PROJECTS:**

1. Notification to the Corps (in accordance with General Condition No. 31) is required for all projects filling greater than 300 linear feet of channel. For projects involving greater than 300 linear feet of bank stabilization, the project proponent shall address the effect of the bank stabilization on the stability of the opposite side of the streambank (if it is not part of the stabilization activity), and on adjacent property upstream and downstream of the activity.
2. This permit does not authorize construction of new airport runways and taxiways.
3. If this NWP has been used to authorize previous project segments within the same linear transportation project, justification must be provided demonstrating that the cumulative impacts of the proposed and previously authorized project segments do not result in more than minimal impacts to the aquatic system.
4. To the maximum extent practicable, any new or additional bank stabilization required for the crossing must incorporate structures or modifications beneficial to fish and wildlife (e.g., soil bioengineering or biotechnical design, root wads, large woody debris, etc.). Where these structures or modifications are not used, the applicant shall demonstrate why they were not considered practicable. Bottomless and embedded culverts are encouraged over traditional culvert stream crossings.

#### **23. APPROVED CATEGORICAL EXCLUSIONS:**

1. Use of this NWP requires notification to the Corps (in accordance with General Condition No. 31). The notification shall include the following:
  - a. A copy of the Federal Categorical Exclusion (Cat/Ex) document signed by the appropriate federal agency. If the Cat/Ex is signed by a state or local agency representative instead of by a federal agency representative, then copies of all documentation authorizing alternative agency signature shall be provided.
  - b. Written description of Corps authority (e.g., Section 10 of the Rivers and Harbors Act and/or Section 404 of the Clean Water Act.);
  - c. a list of conditions described in the Cat/Ex and/or attachments outlining measures that must be taken prior to, during, or after project construction to minimize impacts to the aquatic environment;
  - d. a copy of the jurisdictional delineation performed by qualified specialists showing the project limits and the location (delineated boundaries) of Corps jurisdiction within the overall project limits;
  - e. map(s) showing the locations of potentially permanent and temporary project impacts to areas within Corps jurisdiction;

- f. a clear and concise description of all project impacts including, but not necessarily limited to:
    - 1. quantification and description of permanent project impacts to areas within Corps jurisdiction,
    - 2. quantification and description of temporary impacts to areas within Corps jurisdiction, and
    - 3. linear extent of Corps jurisdiction affected by the project;
  - g. a general description of activities covered by the Cat/Ex that do not require Corps authorization but are connected or related to the activities in Corps jurisdiction;
  - h. a complete description of any proposed mitigation and/or restoration including, but not necessarily limited to, locations of any proposed planting, short- and long-term maintenance, proposed monitoring, success criteria and contingency plans;
  - i. written justification of how the project complies with the Nationwide Permit Program including less than minimal impact to the aquatic environment and compliance with the General Conditions.
  - j. For Federal Highway Administration (FHWA) Cat/Ex projects, the notification should describe how activities described in the Cat/Ex meet the description of the Cat/Ex project published in the August 28, 1987 Federal Register part 771.117 (a)(b)(c) and (d) (Volume 52, No. 167) or any updated version published in the Federal Register.
2. Only activities specifically described in the Cat/Ex project description will be covered by the NWP 23 authorization. If other activities not described in the Cat/Ex project description will be performed (e.g., dewatering, slope protection, etc.), these activities must receive separate NWP authorizations.
  3. Notification to the Corps (in accordance with General Condition 31) must include a copy of the signed Cat/Ex document and final agency determinations regarding compliance with Section 7 of the Endangered Species Act (ESA), Essential Fish Habitat (EFH) under the Magnussen-Stevens Act, and Section 106 of the National Historic Preservation Act.

**27. Aquatic Habitat Restoration, Establishment, and Enhancement Activities**

1. Notification to the Corps (in accordance with General Condition 31) must include documentation of a review of project impacts to demonstrate that at the conclusion of the work that the project would result in a net increase in aquatic function. Additionally, the documentation must include a review of project impacts on adjacent properties or structures and must also discuss cumulative impacts associated with the project.

**29. Residential Developments:**

1. When discharge of fill results in the replacement of wetlands or waters of the U.S. with impervious surfaces, to ensure that the authorized activity does not result in more than minimal degradation of water quality (in accordance with General Condition 25), the residential development shall incorporate low impact development concepts (e.g. native landscaping, bioretention and infiltration techniques, and constructed green spaces) to the extent practicable. A description of the low impact development concepts proposed in the project shall be included with the permit application. More information including low impact development concepts and definitions is available at the following website: <http://www.epa.gov/owow/NPS/lid/>.
2. Use of this NWP is prohibited within the San Francisco Bay diked baylands (undeveloped areas currently behind levees that are within the historic margin of the Bay. Diked historic baylands are those areas on the Nichols and Wright map (see figure 1) below the 5-foot

contour line, National Geodetic Vertical Datum (NGVD) (see Nichols, D.R., and N. A. Wright. 1971. Preliminary map of historic margins of marshland, San Francisco Bay, California. U.S. Geological Survey Open File Map)).

**33. TEMPORARY CONSTRUCTION, ACCESS, AND DEWATERING:**

1. Access roads shall be designed to be the minimum width necessary and shall be designed to minimize changes to the hydraulic flow characteristics of the stream and degradation of water quality (in accordance with General Conditions 9 and 25). The following Best Management Practices (BMPs) shall be followed to the maximum extent practicable to ensure that flow and circulation patterns of waters are not impaired and adverse effects on the aquatic environment will be kept to a minimum:
  - a. The road shall be properly stabilized and maintained during and following construction to prevent erosion.
  - b. Construction of the road fill shall occur in a manner that minimizes the encroachment of trucks, tractors, bulldozers, or other heavy equipment within waters of the United States (including adjacent wetlands) that lie outside the lateral boundaries of the fill itself.
2. Vegetative disturbance in the waters of the U.S. shall be kept to a minimum.
3. Borrow material shall be taken from upland sources whenever feasible.
4. Stream channelization is not authorized by this NWP.

**35. MAINTENANCE DREDGING OF EXISTING BASINS:**

1. Use of this NWP will require notification to the Corps (in accordance with General Condition No. 31). The notification information should be provided on the Consolidated Dredging-Dredged Material Reuse/Disposal Application. This application and instructions for its completion can be found on our web site at: <http://www.spn.usace.army.mil/conops/applications.html>. The information must include the location of the proposed upland disposal site. A jurisdictional delineation of the proposed upland disposal site prepared in accordance with the current method required by the Corps may also be required.
2. The U.S. Coast Guard will be notified by the permittee at least 14 days before dredging commences if the activity occurs in navigable waters of the U.S. (Section 10 waters).
3. The permittee will be required to provide the following information to the Corps:
  - a. Dredge Operation Plan: Submit, for approval by this office, no earlier than 60 calendar days and no later than 20 calendar days before the proposed commencement of dredging, a plan which includes the following: **Corps file number**, a copy of the dredging contract or description of the work under which the contractor will do the permitted work; name and telephone numbers of the dredging contractor's representative on site; proposed dredging start and completion dates; quantity of material to be removed; dredging design depth and typical cross section including overdepth; and date of last dredging episode and design depth. The Dredge Operational Plan shall also provide the following information: The controls being established to insure that dredging operations occur within the limits defined by the basin or channel dimensions and typical channel section.
  - b. Pre-Dredge Survey: Submit no earlier than 60 calendar days and no later than 20 calendar days before commencement of dredging, a survey with accuracy to one-tenth foot that delineates and labels the following: areas to be dredged with overdepth allowances; existing depths; estimated quantities to be dredged to the design depth; and

estimated quantities for overdepth dredging. **All surveys shall be signed by the permittee to certify their accuracy. Please include the Corps file number.**

- c. Solid Debris Management Plan: Submit no earlier than 60 calendar days and no later than 20 calendar days before commencement of work, a plan which describes measures to ensure that solid debris generated during any dredging operation is retained and properly disposed in areas not under Corps jurisdiction. **At a minimum, the plan shall include the following: source and expected type of debris; debris retrieval method; Corps file number; disposal method and site; schedule of disposal operations; and debris containment method to be used, if floatable debris is involved. (Please note that failure to provide all of the information requested in a, b, and c above may result in delays to your project. When your Dredge Operation Plan has been approved, you will receive a written authorization to commence with your project.)**
  
- d. Post-Dredge Survey: Submit, **within 30 days of the last disposal activity** ("last" is defined as that activity after which no further activity occurs for 15 calendar days), a survey with accuracy to one-tenth foot that delineates and labels the areas dredged and provides the dredged depths. **Also, include the Corps file number, actual dates of dredging commencement and completion, actual quantities dredged for the project to the design depth, and actual quantities of overdepth.** The permittee shall substantiate the total quantity dredged by including calculations used to determine the volume difference (in cubic yards) between the Pre- and Post-Dredge Surveys and **explain any variation in quantities greater than 15% beyond estimated quantities or dredging deeper than is permitted (design plus overdepth allowance).** **All surveys shall be accomplished by a licensed surveyor and signed by the permittee to certify their accuracy.** A copy of the post dredge survey should be sent to the National Ocean Service for chart updating:  
NOAA/National Ocean Service,  
Nautical Data Branch  
N/CS26, SSMC3, Room 7230  
1315 East-West Highway  
Silver Spring, Maryland 20910-3282.
  
- e. **The permittee or dredge contractor shall inform this office when: 1) a dredge episode actually commences, 2) when dredging is suspended (suspension is when the dredge contractor leaves the dredge site for more than 48 hours for reasons other than equipment maintenance), 3) when dredging is restarted, and 4) when dredging is complete. Each notification should include the Corps file number.** Details for submitting these notifications will be provided in the verification letter (to whom and how).

### **39. Commercial and Institutional Developments:**

1. When discharge of fill results in the replacement of wetlands or waters of the U.S. with impervious surfaces, to ensure that the authorized activity does not result in more than minimal degradation of water quality (in accordance with General Condition 25), the commercial and institutional development shall incorporate low impact development concepts (e.g. native landscaping, bioretention and infiltration techniques, and constructed green spaces) to the extent practicable. A description of the low impact development concepts proposed in the project shall be included with the permit application. More information including low impact development concepts and definitions is available at the following website: <http://www.epa.gov/owow/NPS/lid/>.
  
2. Use of this NWP is prohibited within the San Francisco Bay diked baylands (undeveloped areas currently behind levees that are within the historic margin of the Bay. Diked historic baylands are those areas on the Nichols and Wright map (see figure 1) below the 5-foot

contour line, National Geodetic Vertical Datum (NGVD) (see Nichols, D.R., and N. A. Wright. 1971. Preliminary map of historic margins of marshland, San Francisco Bay, California. U.S. Geological Survey Open File Map)).

**40. AGRICULTURAL ACTIVITIES:**

1. This NWP does not authorize discharge of fill into the channel of a perennial or intermittent watercourse that could impede high flows. This limitation does not apply to watercourses that flow only when there is an irregular, extraordinary flood event.

**41. RESHAPING EXISTING DRAINAGE DITCHES:**

1. Compensatory mitigation may be required if the Corps determines there will be a detrimental impact to aquatic habitat.
2. Notification to the Corps (in accordance with General Condition 31) is required if the applicant proposes to re-grade, discharge, install channel lining, or redeposit fill material.
3. The notification to the Corps (in accordance with General Condition 31) shall include an explanation of the project's benefit to water quality and a statement demonstrating the need for the project.

**42. RECREATIONAL FACILITIES:**

1. If buildings are proposed to be built in waters of the United States, including wetlands, the applicant must demonstrate that there is no on-site practicable alternative that is less environmentally damaging as defined by the Section 404(b)(1) guidelines.





Enclosure 5

Permittee: California Department of Transportation, District 1

File Number: 2014-00436N

**Certification of Compliance  
for  
Nationwide Permit**

"I hereby certify that the work authorized by the above referenced File Number and all required mitigation have been completed in accordance with the terms and conditions of the Nationwide Permit."

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PERMITTEE

---

DATE

Return to:

Carol Heidsiek  
U.S. Army Corps of Engineers  
San Francisco District  
Eureka Field Office, CESP-N-R-N-EK  
601 Startare Drive, Box 14  
Eureka, California 95501

Is the discharge of fill or dredged material for which Section 10/101 authorization is sought part of a larger plan of development?:  YES  NO Enclosure 6

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): N/A

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): N/A

**Box 9 Measures taken to avoid and minimize impacts to waters of the United States:**

**01: Establish Environmentally Sensitive Areas**

- Sensitive natural resource features occurring outside of the expected construction impact area will be avoided or minimized by designating these features as “environmentally sensitive areas” (ESAs) on project plans and in project specifications.
- ESA information will be shown on contract plans and discussed in the Special Provisions. ESA provisions may include, but are not limited to, the use of temporary orange fencing to delineate the proposed limit of work in areas adjacent to sensitive resources, or to delineate and exclude sensitive resources from potential construction impacts.
- Contractor encroachment into ESAs will be restricted (including the staging/operation of heavy equipment or casting of excavation materials).
- ESA provisions shall be implemented as a first order of work, and remain in place until all construction activities are complete.

**02: Restrict Timing of In-Stream Activities**

To avoid direct impacts to water quality, no work will be performed within streams and drainages within the ESL until flows are at their seasonal low. It is predicted that in most years, the seasonal low-flow period occurs between June 15<sup>th</sup> and October 15<sup>th</sup>; however, work within these drainages will be subject to stream conditions and permit restrictions.

**03: Minimize Disturbance to Jurisdictional Waters**

- All waters and wetlands adjacent to the construction zone that will not be altered as a result of the project will be designated as ESAs, and shall be fenced and signed to assure no inadvertent damage to these resources will occur.
- Vegetation removal shall be limited to the absolute minimum amount required for construction
- *Permit Restrictions:* The drainage repair project will impact jurisdictional waters of the United States and as such will require the use of a Clean Water Act section 404 permit from the Army Corps of Engineers and a section 401 Water Quality Certification from the North Coast Regional Water Quality Control Board. Because the work will take place below the top of the streambank, a 1602 Streambed Alteration Agreement will also be required from CDFW.

- Revegetation may include topsoil replacement, planting, seeding, fertilization, liming, and weed-free mulching as necessary.
- Only native seed material shall be used; seed, hay and straw used in erosion control applications shall be certified weed-free or weed-seed free.

**05: Revegetation of Disturbed Habitats**

- Upon completion of project construction, streambanks will be permanently stabilized with a hydroseed mixture of native species.
- Only native seed material shall be used; seed, hay and straw used in erosion control applications shall be certified weed-free or weed-seed free.

**06: Restoration of Temporary Impacts**

- Upon completion of project construction, wetland areas temporarily impacted by project activities will be restored to pre-construction conditions.
- All plant sources used for restoration will be generated from materials collected from the vicinity of the project or of similar elevation and habitat characteristics.

**Box 10 Proposed Compensatory Mitigation** 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 (tidal wetland, non-tidal wetland, riparian wetland, ephemeral stream/river, intermittent stream/river, perennial stream/river, pond/lake, vegetated shallows, bay/harbor, lagoon, ocean, etc.) or non-jurisdictional (uplands<sup>1</sup>). Indicate mitigation type (permittee-responsible on-site/off-site, mitigation bank, or in-lieu fee program). If the mitigation is purchase of credits from a mitigation bank, indicate the bank to be used, if known:

<sup>1</sup> For uplands, please indicate if designed as an upland buffer.

Site Number	Water Body Type	Created		Restored		Enhanced		Preserved		Mitigation Type
		Area	Length	Area	Length	Area	Length	Area	Length	
Total:										

If no mitigation is proposed, provide detailed explanation of why no mitigation would be necessary:  
 No mitigation proposed because any impacts to wetlands and waters are temporary and will be restored.

If permittee-responsible mitigation is proposed, provide justification for not utilizing a Corps-approved mitigation bank or in-lieu fee program: N/A

Has a draft/conceptual mitigation plan been prepared in accordance with the April 10, 2008 Final Mitigation Rule<sup>2</sup> and District Guidelines?

County of Mendocino - Department of Planning  
and Building Services

Final Findings and Conditions of Approval  
CDP 2014-0019

Dated - March 12th, 2105



**COUNTY OF MENDOCINO**  
**DEPARTMENT OF PLANNING AND BUILDING SERVICES**  
860 NORTH BUSH STREET · UKIAH · CALIFORNIA · 95482  
120 WEST FIR STREET · FORT BRAGG · CALIFORNIA · 95437

STEVE DUNNICLIFF  
TELEPHONE 707-234-6650  
FAX 707-463-5709  
FB PHONE 707-964-5379  
FB FAX 707-961-2427  
pbs@co.mendocino.ca.us  
www.co.mendocino.ca.us/planning

March 22, 2015

**NOTICE OF FINAL ACTION**

Action has been completed by the County of Mendocino on the below described project located within the Coastal Zone.

**CASE#:** CDP\_2014-0019

**DATE FILED:** 6/2/2014

**OWNER:** CA DEPT OF TRANSPORTATION

**APPLICANT:** CA DEPT OF TRANSPORTATION

**AGENT:** DEMLING FRANK

**PROJECT COORDINATOR:** JULIANA CHERRY

**REQUEST:** Repair storm damage along Highway 1 between Postmile Markers 2.34 to 2.53, one mile north of Gualala. The project will construct a soldier pile retaining wall and install metal beam guardrail; reconstruct the roadway; and improve drainage along the highway. The construction staging area will occur along the west side of the highway, extending 100 feet north of the proposed retaining wall.

**ENVIRONMENTAL DETERMINATION:** Pursuant to Division 13, Public Resources Code, a Negative Declaration was filed by California Department of Transportation as the lead agency (SCH # 20131020005) on December 19, 2013.

**LOCATION:** In the Coastal Zone, on the west side of Highway 1 between Postmile Markers 2.34 to 2.53, which is approximately 1 mile north of the town of Gualala.

**ACTION TAKEN:**

The Coastal Permit Administrator, on March 12, 2015, approved the above described project with modification to add a Coastal Trail and bicycle lanes through the project area. See attached documents for the findings and conditions in support of this decision.

The above project was not appealed at the local level.

This project is appealable to the Coastal Commission pursuant to Public Resources Code, Section 30603. An aggrieved person may appeal this decision to the Coastal Commission within 10 working days following Coastal Commission receipt of this notice. Appeals must be in writing to the appropriate Coastal Commission district office.

**Attachments**

cc: Coastal Commission  
Assessor



**COUNTY OF MENDOCINO**  
**DEPARTMENT OF PLANNING AND BUILDING SERVICES**  
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120 WEST FIR STREET • FORT BRAGG • CALIFORNIA • 95437

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**FINAL FINDINGS AND CONDITIONS OF APPROVAL**  
**CDP 2014-0019 - CALTRANS**  
**MARCH 12, 2015**

**PROJECT FINDINGS AND CONDITIONS:** Pursuant to the provisions of Chapter 20.532 and Chapter 20.536 of the Mendocino County Code, the Board of Supervisors approves the proposed project, and adopts the following findings and conditions.

**FINDINGS:**

1. The proposed development is in conformity with the Chapter 7 of Mendocino County's General Plan; and
2. The proposed development will be provided with adequate roadway, drainage and other necessary facilities; and
3. The proposed development, if constructed in compliance with the conditions of approval, will not have any significant adverse impacts on the environment as identified by an *Initial Study with Negative Declaration* SCH # 2013102005 prepared pursuant with the California Environmental Quality Act; and
4. The proposed development will not have any adverse impacts on any known archaeological or paleontological resource; and
5. Other public services, including but not limited to, solid waste and public roadway capacity have been considered and are adequate to serve the proposed development.
6. The proposed development is in conformity with the public access and public recreation policies of Chapter 3 of the California Coastal Act and Coastal Element of the General Plan.

**CONDITIONS OF APPROVAL:**

1. This action shall become final on the 11th day following the decision unless an appeal is filed pursuant to Section 20.544.015 of the Mendocino County Code. The permit shall become effective after the ten working day appeal period to the Coastal Commission has expired and no appeal has been filed with the Coastal Commission. The permit shall expire and become null and void at the expiration of two years after the effective date except where construction and use of the property in reliance on such permit has been initiated prior to its expiration.
2. The use shall be established and maintained in conformance with the provisions of Division II of Title 20 of the Mendocino County Code.
3. The application, along with supplemental exhibits and related material, including an *Initial Study with Negative Declaration* SCH # 2013102005, shall be considered elements of this permit, and that compliance therewith is mandatory, unless an amendment has been approved by the Coastal Permit Administrator.
4. This permit shall be subject to the securing of all necessary permits for the proposed development from County, State and Federal agencies having jurisdiction.

5. The applicant shall secure all required building permits for the proposed project as required by the Building Inspection Division of the Department of Planning and Building Services.
6. This permit shall be subject to revocation or modification upon a finding of any one or more of the following:
  - a. The permit was obtained or extended by fraud.
  - b. One or more of the conditions upon which the permit was granted have been violated.
  - c. The use for which the permit was granted is conducted so as to be detrimental to the public health, welfare or safety, or to be a nuisance.
  - d. A final judgment of a court of competent jurisdiction has declared one or more conditions to be void or ineffective, or has enjoined or otherwise prohibited the enforcement or operation of one or more such conditions.
7. This permit is issued without a legal determination having been made upon the number, size or shape of land boundaries and right-of-way encompassed within the permit described boundaries. Should, at any time, a legal determination be made that the number, size or shape of land boundaries within the permit described boundaries are different than that which is legally required by this permit, this permit shall become null and void.
8. If any archaeological sites or artifacts are discovered during site excavation or construction activities, the applicant shall cease and desist from all further excavation and disturbances within one hundred (100) feet of the discovery, and make notification of the discovery to the Director of the Department of Planning and Building Services. The Director will coordinate further actions for the protection of the archaeological resources in accordance with Section 22.12.090 of the Mendocino County Code.
9. All construction must maintain an eight (8) foot setback to any nearby septic leach field area.
10. The applicant shall specify Best Management Practices to be implemented to reduce erosion and sedimentation from construction activities. If the amount of grading on the site exceeds fifty (50) cubic yards, the applicant shall cease construction activities and develop a Grading and Erosion Control Plan for the site and submit it to the Planning Division for review and approval.
11. Prior to commencing work, Caltrans shall submit revised project plans will be for reviewed and approved approval by Mendocino County Planning and Building Services. ~~Throughout the project area, the revised project plans shall include to confirm that the coastal access route trail for pedestrians and northbound and southbound Class II Bike Lanes will be built through the project area.~~

# Coastal Permit Administrator Action Sheet

Hearing Date: March 12, 2015

Case #: CDP 2014-19

## Environmental Considerations:

- Categorically Exempt  
 Negative Declaration  
 Environmental Impact Report

## Action:

- Approved     Denied     Continued to: \_\_\_\_\_

## Findings:

- Adopted per staff report     Modifications and/or additions

## Conditions:

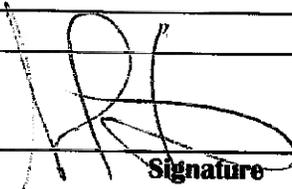
- Adopted per staff report     Modifications and/or additions

See revised Findings and Additional Condition of Approval

A) Finding 20.532.095(B)(1) is revised

B) Condition No. 11 was adopted as a new condition to state "Prior to commencing work, Caltrans shall submit revised project plans for review and approval by Mendocino County Planning and Building Services, to confirm that the coastal trail and northbound and southbound Class II Bike Lanes will be built through the project area."

COASTAL PERMIT ADMINISTRATOR: \_\_\_\_\_

  
Signature

California Regional Water Quality Control Board

North Coast Water Board:

WDID No. 1B14026WNME, ECM PIN CW - 804904

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**North Coast Regional Water Quality Control Board**

August 8, 2014

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**In the Matter of**

**Water Quality Certification**

**for the**

**California Department of Transportation**  
**State Route 1, Mendocino County Big Gulch Storm Damage Repair Project**  
**(Caltrans EA No. 01-49771)**  
**WDID No. 1B14026WNME, ECM PIN CW-804904**

APPLICANT: California Department of Transportation  
RECEIVING WATER: Pacific Ocean  
HYDROLOGIC UNIT: Garcia River Hydrologic Area (Basin Plan Hydrologic Planning Area 113.70)  
COUNTY: Mendocino  
FILE NAME: 140807\_BJT\_dp\_CDOT\_MEN1\_BigGulch\_401

---

**FINDINGS BY THE EXECUTIVE OFFICER:**

1. On March 25, 2014, the North Coast Regional Water Quality Control Board (Regional Water Board) received an application from the California Department of Transportation (Caltrans) requesting Federal Clean Water Act section 401, Water Quality Certification (certification) for activities related to the proposed State Route 1 Big Gulch Storm Damage Repair Project (Project).
2. **Hydrologic Unit:** The proposed Project would cause disturbances to a jurisdictional perennial, unnamed stream, tributary to the Pacific Ocean within the Garcia River Hydrologic Area (Basin Plan Hydrologic Planning Area 113.70). The stream originates from a nearby hillside seep.

3. **Public Notice:** The Regional Water Board provided public notice of the application pursuant to title 23, California Code of Regulations, section 3858, on July 2, 2014, and posted information describing the project on the Regional Water Board's website. No comments were received.
4. **Project Description:** The proposed Project would occur on State Route 1 between post-miles 2.34 and 2.53, north of the town of Gualala, in Mendocino County. The purpose of the Project is to repair storm damage to the roadway. Project elements would include the following work at the designated post miles:
  - **Construct Soldier Pile Wall:** Caltrans would construct a cantilever soldier pile wall below the southbound side of the roadway between post-miles 2.41 and 2.44. The wall would be 10-feet high and 150-feet long. Piles would be constructed using cast-in-drilled-hole method.
  - **Roadway Excavation and Reconstruction:** The roadway would be excavated and reconstructed between post-miles 2.34 and 2.53. The existing asphalt concrete surface would be ground-off and the underlying aggregate base would be removed. The travel-way width would be increased from 11.5 feet to 12.0 feet-wide between post-miles 2.41 and 2.44.
  - **Drainage System Replacement:** A 30-inch cross culvert (with inlet headwall) would be relocated approximately six feet south of its current location at post-mile 2.43. A new downdrain would be constructed and discharge directly to a Pacific Ocean cove
5. **Construction Duration:** The Project is expected to be completed within 80 days between May 15 and October 14, 2015.
6. **Permanent Impacts:** Caltrans has determined that Project implementation would not result in permanent impacts to State waters.
7. **Temporary Impacts:** Caltrans has determined that the proposed Project would result in approximately 0.011 acres of temporary impacts to State waters due to culvert relocation.
8. **Mitigation for Temporary Impacts:** Caltrans shall restore temporarily impacted areas to their pre-construction condition.
9. **Post-Construction Stormwater Treatment:** Post-construction stormwater treatment is not required because Project implementation will not result in a net increase in impervious surface.
10. **Disturbed Soil Area:** Project implementation would result in greater than one acre of disturbed soil area. Caltrans shall apply for coverage under the National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated

with Construction and Land Disturbance Activities (“construction general permit,” Order No. 2009-0009-DWQ) and prepare a Stormwater Pollution Prevention Plan detailing Best Management Practices to control pollution from the Project area during construction.

11. **Utility Relocations:** This certification does not certify any utility relocations affecting State waters.
12. **Other Agency Actions:** Caltrans has applied for coverage under United States Army Corps of Engineers Nationwide Permit No. 14, *Linear Transportation Project*, pursuant to Clean Water Act, section 404. Caltrans has also submitted a draft Streambed Alteration Agreement to the California Department of Fish and Wildlife for review.
13. **CEQA Compliance:** On December 19, 2013, the California Department of Transportation, acting as lead agency, filed a Notice of Determination with the State Clearinghouse that Project implementation would not result in significant environmental effects.
14. **Antidegradation Policy:** The federal antidegradation policy requires that state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California’s antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board’s Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. This certification is consistent with applicable federal and State antidegradation policies, as it does not authorize the discharge of increased concentrations of pollutants or increased volumes of treated wastewater, and does not otherwise authorize degradation of the waters affected by this Project.
15. This discharge is also regulated under State Water Resources Control Board Order No. 2003-0017-DWQ, "General Waste Discharge Requirements for Dredge and Fill Discharges That Have Received State Water Quality Certification," which requires compliance with all conditions of this certification.

Receiving Water:	Pacific Ocean	
Filled and/or Excavated Areas:	Permanent	none
	Temporary – perennial wetland drainage	0.011 acres (~40 linear feet)
Dredge Volume:	None	
Fill Volume:	None	

Mitigation:	None required
Latitude/Longitude:	38.783325 N, 123.551122 W

Accordingly, based on its independent review of the record, the Regional Water Board certifies that the State Route 1 Big Gulch Storm Damage Repair Project (WDID No. 1B14026WNME), as described in the application will comply with sections 301, 302, 303, 306 and 307 of the Clean Water Act, and with applicable provisions of state law, provided that the Caltrans complies with the following terms and conditions:

**All conditions of this certification apply to Caltrans (and all its employees) and all contractors (and their employees), sub-contractors (and their employees), and any other entity or agency that performs activities or work on the project (including the off-site mitigation lands) as related to this Water Quality Certification.**

1. All Project activities and BMPs shall be implemented according to the submitted application package and the findings and conditions of this certification. Subsequent changes to the Project that could significantly impact water quality shall first be submitted to Regional Water Board staff for prior review, consideration, and written concurrence. The Regional Water Board recommends Caltrans either consult with Regional Water Board staff or use the best professional judgment of Caltrans environmental staff to determine if Project changes that may affect water quality warrant notification to the Regional Water Board. If the Regional Water Board is not notified of an alteration to the Project that results in a significant impact to water quality, it will be considered a violation of this Order, and Caltrans may be subject to Regional Water Board enforcement actions.
2. All conditions required by this Order shall be included in the Contract Documents prepared by Caltrans for the contractor. In addition, Caltrans shall require compliance with all conditions included in this Order in the bid contract for this Project.
3. Asphalt-concrete grindings shall not be placed in any location where they may, at any time, be directly exposed to surface waters or seasonally high ground water, except asphalt-concrete grindings may be re-used and incorporated into hot mix asphalt products or encapsulated within the roadway structural section.
4. Caltrans is prohibited from discharging waste to waters of the State, unless explicitly authorized by this certification. For example, no debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete or concrete washings, welding slag, 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 State waters.
5. Except for temporary stockpiling of waste generated during demolition operations ("temporary" in this instance means generated and removed during the same

- working day), waste materials shall not be placed in a manner where the materials may be transported into waters of the State. Waste materials shall not be placed within 100 linear feet of State waters. Exceptions to the 100-foot limit may be granted on a case-by-case basis provided Caltrans first submits a proposal in writing that is found acceptable by Regional Water Board staff.
6. Caltrans is liable and responsible for the proper disposal of Project-generated waste. Additionally, when handling, transporting, and disposing of Project-generated waste, Caltrans and their contractors shall:
    - i) Comply with all applicable State and Federal laws and regulations;
    - ii) Make appropriate arrangements to dispose of the material, including, but not limited to, property owner agreements, permits, licenses, and environmental clearances;
    - iii) Obtain satisfactory evidence that the work in 6.i has been completed; and
    - iv) For all waste types other than Class III, obtain a dated, signed manifest from the disposal site owner, or authorized representative, that identifies the type and quantity of disposed waste.
  7. Fueling, lubrication, maintenance, storage and staging of vehicles and equipment shall be prohibited within waters of the State (e.g., gravel bars, seeps, ephemeral streams) and riparian areas. Caltrans shall not use leaking vehicles or equipment within State waters or riparian areas.
  8. Caltrans shall prioritize the use of wildlife-friendly biodegradable (not photo-degradable) erosion control products wherever feasible. Caltrans shall not use or allow the use of erosion control products that contain synthetic netting for permanent erosion control (i.e., erosion control materials to be left in place for two years or after the completion date of the Project). If Caltrans finds that erosion control netting or products have entrapped or harmed wildlife, personnel shall remove the netting or product and replace it with wildlife-friendly biodegradable products.
  9. Caltrans shall not use or allow the use of erosion control products that contain synthetic materials within waters of the United States or waters of the State at any time, with the exception of plastic sheeting used in water diversion and dewatering activities. Caltrans shall first request approval from the Regional Water Board if an exception from this requirement is needed for a specific location.
  10. Work in flowing or standing surface waters, unless otherwise proposed in the Project description and approved by the Regional Water Board, is prohibited.
  11. Non-stormwater discharges are prohibited unless the discharge is first approved by the Regional Water Board and in compliance with the Basin Plan. If construction dewatering of groundwater is necessary, then Caltrans shall use a method of water

disposal other than disposal to surface waters, such as land disposal. Groundwater disposed of to land shall not enter State waters. Alternatively, Caltrans may apply for coverage under the Low Threat Discharge Permit or an individual National Pollutant Discharge Elimination System (NPDES) Permit. If Caltrans applies for coverage under either of these permits, then discharge is prohibited until Caltrans has received notification of coverage under the respective permit.

12. Herbicides and other pesticides shall not be used within the Project limits. If Caltrans has a compelling case as to why pesticides should be used, then a request for pesticide use and a BMP plan may be submitted to the Regional Water Board staff for review and acceptance.
13. This Order does not authorize drafting of surface waters.
14. Caltrans shall provide a copy of this certification and State Water Resources Control Board (SWRCB) Order No. 2003-0017-DWQ (web link referenced below) to the contractor and all subcontractors conducting the work, and require that copies remain in their possession at the work site. Caltrans shall be responsible for work conducted by its contractor and subcontractors.
15. If an unauthorized discharge to surface waters (including wetlands, rivers or streams) occurs, or any other threat to water quality arises as a result of Project implementation, the associated Project activities shall cease immediately until the threat to water quality is otherwise abated. If there is a discharge to State waters, the Regional Water Board shall be notified, with photographs of the discharge and area contributing to the discharge, no more than 24 hours after the discharge occurs.
16. Any imported fill material shall be clean and free of pollutants. All fill material shall be imported from a source that has the appropriate environmental clearances and permits. The reuse of low-level contaminated solids as fill on-site shall be performed in accordance with all State and Federal policies and established guidelines and must be submitted to the Regional Water Board for review and consideration of acceptance.
17. The validity this certification is conditioned upon total payment of any fee required under title 23, California Code of Regulations, section 3833, and owed by Caltrans. The Regional Water Board received \$1,682 from Caltrans on March 24, 2014.
18. 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 title 23, California Code of Regulations, section 3855, subdivision (b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric

facility was being sought.

19. In the event of any violation or threatened violation of the conditions of this certification, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for under applicable state or federal law. For the purposes of section 401(d) of the Clean Water Act, the applicability of any state law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this certification. In response to a suspected violation of any condition of this certification, the State Water Board may require the holder of any federal permit or license subject to this certification to furnish, under penalty of perjury, any technical or monitoring reports the State Water Board deems appropriate, provided that the burden, including costs, of the reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In response to any violation of the conditions of this certification, the Regional Water Board may add to or modify the conditions of this certification as appropriate to ensure compliance.
20. This certification action is subject to modification or revocation upon administrative or judicial review; including review and amendment pursuant to Water Code section 13330 and title 23, California Code of Regulations, section 3867.
21. This certification is not transferable. In the event of any change in control of ownership of land presently owned or controlled by Caltrans, Caltrans shall notify the successor-in-interest of the existence of this certification by letter and shall forward a copy of the letter to the Regional Water Board. The successor-in-interest must send to the Regional Water Board Executive Officer a written request for transfer of this certification to discharge dredged or fill material under this Order. The request must contain the following:
  - i) requesting entity's full legal name;
  - ii) the state of incorporation, if a corporation;
  - iii) address and phone number of contact person; and
  - iv) a description of any changes to the project or confirmation that the successor-in-interest intends to implement the project as described in this Order.
22. Except as may be modified by any preceding conditions, all certification actions are contingent on: a) the discharge being limited, and all proposed revegetation, avoidance, minimization, and mitigation measures being completed, in strict compliance with Caltrans's project description and CEQA documentation, as approved herein; and b) compliance with all applicable water quality requirements and water quality control plans including the requirements of the Water Quality Control Plan for the North Coast Region (Basin Plan), and amendments thereto.

23. The authorization of this certification for any dredge and fill activities expires five years from the date of this certification. Conditions and monitoring requirements outlined in this Order are not subject to the expiration date outlined above, and remain in full effect and are enforceable.

The Regional Water Board may add to or modify the conditions of this Order, as appropriate, to implement any new or revised water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or section 303 of the Clean Water Act.

Please contact our staff Environmental Specialist/Caltrans liaison, Brendan Thompson at (707) 576-2699, or via e-mail, at [Brendan.Thompson@waterboards.ca.gov](mailto:Brendan.Thompson@waterboards.ca.gov), if you have any questions.

*Original signed by David Leland for*

---

Matthias St. John  
Executive Officer

140808\_BJT\_dp\_CDOT\_MEN1\_BigGulch\_401

Web link: State Water Resources Control Board Order No. 2003-0017 -DWQ, General Waste Discharge Requirements for Dredge and Fill Discharges That Have Received State Water Quality Certification can be found at:  
[http://www.waterboards.ca.gov/board\\_decisions/adopted\\_orders/water\\_quality/2003/wqo/wqo2003-0017.pdf](http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0017.pdf)

Original to: Mr. Frank Demling, Caltrans, 2430 6<sup>th</sup> St., Eureka, CA 95501  
[Frank.Demling@dot.ca.gov](mailto:Frank.Demling@dot.ca.gov)

cc: U.S. Army Corps of Engineers, Regulatory Functions - San Francisco District  
[Bryan.T.Matsumoto@usace.army.mil](mailto:Bryan.T.Matsumoto@usace.army.mil)  
[Jane.M.Hicks@usace.army.mil](mailto:Jane.M.Hicks@usace.army.mil)

California Department of Fish and Wildlife, Bay Delta Region  
[JoAnn.Dunn@wildlife.ca.gov](mailto:JoAnn.Dunn@wildlife.ca.gov)

Environmental Protection Agency, Region IX  
[R9-WTR8-Mailbox@epa.gov](mailto:R9-WTR8-Mailbox@epa.gov)

Caltrans  
[David.Melendrez@dot.ca.gov](mailto:David.Melendrez@dot.ca.gov)  
[Kenneth.Russo@dot.ca.gov](mailto:Kenneth.Russo@dot.ca.gov)

Regional and State Water Board  
[Brendan.Thompson@waterboards.ca.gov](mailto:Brendan.Thompson@waterboards.ca.gov)  
[Stateboard401@waterboards.ca.gov](mailto:Stateboard401@waterboards.ca.gov)  
[Stephen.Bargsten@waterboards.ca.gov](mailto:Stephen.Bargsten@waterboards.ca.gov)

California Department of Fish and Wildlife:  
Lake or Streambed Alteration Agreement  
Notification No. 1600-2014-0078-R1

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

RECEIVED

JUL 21 2014



**LAKE OR STREAMBED ALTERATION AGREEMENT**  
NOTIFICATION No. 1600-2014-0078-R1  
Unnamed Stream Draining Directly to the Pacific Ocean

D. F. G. – EUREKA

## 1 Encroachment

Mr. Frank C. Demling Representing the Department of Transportation  
CULVERT REPLACEMENT AND UPGRADE AT PM 2.43 ON STATE ROUTE 1  
UNNAMED TRIBUTARY TO THE PACIFIC OCEAN, MENDOCINO COUNTY

This Lake or Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Wildlife (CDFW) and Mr. Frank C. Demling (Permittee) representing the California Department of Transportation (Caltrans).

## RECITALS

WHEREAS, pursuant to Fish and Game Code (FGC) section 1602, Permittee notified CDFW on March 24, 2014 that Permittee intends to complete the project described herein.

WHEREAS, pursuant to FGC section 1602, CDFW has determined that the project could substantially adversely affect existing fish or wildlife resources and has included measures in the Agreement necessary to protect those resources.

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

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

## PROJECT LOCATION

The project is located at Post Mile 2.43 on State Route 1 approximately 1.75 miles north of the town of Gualala, affecting an Unnamed Tributary to the Pacific Ocean in the County of Mendocino, State of California; Section 21, Township 11N, Range 15W; Mt. Diablo Base and Meridian, in the Gualala, Calif. 7.5-minute quadrangle; U.S. Geological Survey (USGS) map, ( $^{\circ}38.783325N/-^{\circ}123.551122W$ , NAD 83).

## PROJECT DESCRIPTION

The project involves one encroachment: replace and upgrade an existing 30-inch culvert with a new 30-inch culvert and down-drain. The new culvert will be installed

approximately 6 feet south of the existing culvert location. De-watering of the work site is expected. The project site was dry during the May 28, 2014 site inspection.

## **PROJECT IMPACTS**

Existing fish or wildlife resources the project could substantially adversely affect include: populations of California red-legged frog (*Rana boylei*) and other aquatic and riparian species.

The adverse effects the project could have on the fish or wildlife resources identified above include: direct and/or incidental take, impede up- and/or down-stream migration, damage to spawning and/or rearing habitat and potential cumulative impacts.

## **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 CDFW 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 CDFW 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, CDFW shall contact Permittee to resolve any conflict.
- 1.4 Project Site Entry. Permittee agrees that CDFW personnel may enter the project site to verify compliance with the Agreement.

## 2. Avoidance and Minimization Measures

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

- 2.1 Except where otherwise stipulated in this Agreement, all work shall be conducted in accordance with the forms, work plans, November 8 2013 consultation letter from the U.S. Fish and Wildlife Service, July 2013 Natural Environment Study for the Big Gulch Storm Damage Repair Project, maps and drawings submitted with Notification No. 1600-2014-0078, as modified or amended on March 24, 2014 and as further modified on June 16, 2014 (June 16, 2014 email from Kenneth Russo to Rick Macedo).
- 2.2 This Agreement pertains to one encroachment affecting an Unnamed Tributary that drains directly to the Pacific Ocean.
- 2.3 Permanent culverts at stream crossings shall be sized to pass the estimated 100-year flood flow, including debris and sediment loads, without overtopping or diverting. Culvert sizing factors shall include transportation of bedload, and the abundance and size of woody debris likely to be introduced to the stream upstream of the culvert crossing. The culverts shall be set at the natural streambed elevation to the maximum extent feasible.
- 2.4 All work within the bed, bank and channel shall be confined to the period June 15 through October 15 of each year. Work may be conducted in or near the stream during the late season work period October 15 through November 1, provided adherence to all conditions in this Agreement and a) – c) below:
  - a) The Permittee shall complete any unfinished encroachment work, including erosion control measures, within 24 hours of DFG directing the Permittee to do so.
  - b) Prior to any work at a site, the Permittee shall stock-pile erosion control materials at the site. All bare mineral soil exposed in conjunction with crossing construction, deconstruction, maintenance or repair or removal shall be treated for erosion immediately upon completion of work on the crossing, and prior to the onset of precipitation capable of generating runoff.
  - c) When a 7-day National Weather Service forecast of rain includes a minimum of 5 consecutive days with any chance of precipitation, 3 consecutive days with a 30% or greater chance of precipitation, or 2 consecutive days of 50% or greater chance of precipitation, the Permittee shall finish work underway at encroachment and refrain from starting any new work at encroachment prior to the rain event.

- 2.5 Equipment shall not operate in a live (flowing) stream or wetted channel except as may be necessary to direct flow into the new culvert.
- 2.6 To prevent the release of materials that may be toxic to fish and other aquatic species, poured concrete shall be isolated from stream flow and allowed to dry/cure for a minimum of 30 days. As an alternative, the Responsible Party shall monitor the pH of water that has come into contact with the poured concrete. If this water has a pH of 9.0 or greater, the water shall be pumped to tanker truck or to a lined off-channel basin and allowed to evaporate or be transported to an appropriate facility for disposal. During the pH monitoring period, all water that has come in contact with poured concrete shall be isolated and not allowed to flow downstream or otherwise come in contact with fish and other aquatic resources. The water shall be retested until pH values become less than 9.0. Once this has been determined, the area no longer needs to be isolated and water may be allowed to flow downstream. Results of pH monitoring shall be made available to DFG upon request.
- 2.7 All bare mineral soil exposed in conjunction with project related activities shall be treated for erosion prior to the onset of precipitation capable of generating run-off or the end of the yearly work period, whichever comes first. Treatments shall include using native slash or seeding and mulching of all bare mineral soil exposed in conjunction with encroachment work. Only clean straw (such as rice, barley, wheat, or weed-free straw), and seeding with regional native seed or non-native seed that is known not to persist or spread (e.g., barley (*Hordeum vulgare*) or wheat (*Triticum aestivum*) shall be used. No known invasive grass seed shall be used such as annual or perennial ryegrass (*Lolium multiflorum* or *L. perenne*, which are now referred to as *Festuca perennis*).
- 2.8 Only wildlife-friendly 100 percent biodegradable erosion control products that will not entrap or harm wildlife shall be used. Erosion control products shall not contain synthetic (e.g., plastic or nylon) netting. Photodegradable synthetic products are not considered biodegradable.
- 2.9 The Permittee shall provide site maintenance including, but not limited to, re-applying erosion control to minimize surface erosion and ensuring drainage structures, streambeds and banks remain sufficiently armored and/or stable.
- 2.10 Structures and associated materials not designed to withstand high seasonal flows shall be removed to areas above the ordinary high water mark before such flows occur or the end of the yearly work period, whichever comes first.
- 2.11 Refueling of equipment and vehicles and storing, adding or draining lubricants, coolants or hydraulic fluids shall not take place within or adjacent to any stream. All such fluids and containers shall be disposed of properly. Heavy equipment

parked within or adjacent to the stream shall use drip pans or other devices (e.g., absorbent blankets, sheet barriers or other materials) as needed to prevent soil and water contamination.

- 2.12 All activities performed in the field which involve the use of petroleum or oil based substances shall employ absorbent material designated for spill containment and clean up activity on site for use in case of accidental spill. Clean-up of all spills shall begin immediately. The Permittee shall immediately notify the State Office of Emergency Services at 1-800-852-7550. CDFW shall be notified by the Permittee and consulted regarding clean-up procedures.
- 2.13 No debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete washings, oil or petroleum products, or other organic or earthen material from construction work, or associated activity of whatever nature shall be allowed to enter into, or be 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. (Not applicable to material installed permanently or temporarily as part of the project activities).
- 2.14 Upon CDFW determination that turbidity/siltation levels resulting from project related activities constitute a threat to aquatic life, activities associated with the turbidity/siltation, shall be halted until effective CDFW approved control devices are installed, or abatement procedures are initiated.

SITE-SPECIFIC CONDITONS:

- 2.15 If feasible, work should be conducted when the affected stream reach is void of surface water. If water will be present during construction, the Permittee (or Permittee designee) shall: a) contact Mr. Rick Macedo at (707) 928-4369 or CDFW at (707) 441-2075 and b) allow CDFW staff up to 10 business days for consultation regarding proposed in-water operations.

California Red-legged Frog Protection Measures:

- 2.16 A biologist or other qualified professional shall conduct a survey for California red-legged frog (CRLF) within one week of commencing Project activities. The survey may occur during day or night. For night surveys, the surveyor shall use a portable light for use in detecting a frog's eye-shine. Surveys will include the Project site and an area that extends a minimum of 30 feet up- and downstream of the Project site.
- 2.17 A biologist or other qualified professional shall visually survey the project footprint for CRLF the day prior to the start of project activities.

an opportunity to correct any deficiency before CDFW 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 CDFW to issue the notice.

## **ENFORCEMENT**

Nothing in the Agreement precludes CDFW 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 CDFW'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 §§ 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**

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

## **EXTENSIONS**

In accordance with FGC § 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 CDFW a completed CDFW "Request to Extend Lake or Streambed Alteration" form and include with the completed form payment of the extension fee identified in CDFW's current fee schedule (see Cal. Code Regs., title 14, § 699.5). CDFW 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 (FGC § 1605, subd. (f)).

## **EFFECTIVE DATE**

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

## **TERM**

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

**EXHIBITS**

None.

**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.

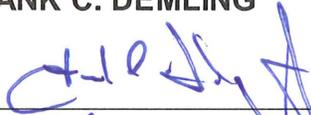
**AUTHORIZATION**

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 CDFW in accordance with FGC section 1602.

**CONCURRENCE**

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

**FRANK C. DEMLING**

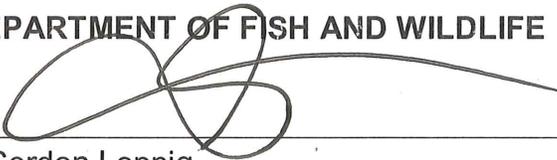


21 July 2014

Name: FRANK C. DEMLING  
Title PROJECT MANAGER

Date

**FOR DEPARTMENT OF FISH AND WILDLIFE**



7/23/14

Name Gordon Leppig  
Senior Environmental Scientist (Supervisor)

Date

Prepared by: Rick Macedo  
Environmental Scientist  
5-29-14 and revised at the request of the Permittee on 6-20-14  
Revised again on 7-7-14 at the request of the Permittee

Summary of Foundation Recommendation Reports  
Foundation Report for the Big Gulch Retaining Wall  
dated June 27, 2014

**DEPARTMENT OF TRANSPORTATION**

# Memorandum

**To:** JOE DOWNING, CHIEF  
Design Branch 3  
Office of Bridge Design, West  
DIVISION OF ENG. SERVICES

**Date:** June 27, 2014  
**File:** 01-MEN-001-PM 2.43  
**EFIS ID:** 0100020262  
**Wall No.** 10E0032

**Attn:** Lewis Shen, PE

**From:** DEPARTMENT OF TRANSPORTATION  
DIVISION OF ENGINEERING SERVICES  
GEOTECHNICAL SERVICES  
OFFICE OF GEOTECHNICAL DESIGN NORTH – BRANCH B

**Subject:** Foundation Report for Big Gulch Retaining Wall

## INTRODUCTION

This Foundation Report summarizes the results of the foundation investigation and provides geotechnical recommendations for a soldier pile and lagging wall on Route 001 at post mile (PM) 2.43 in Mendocino County, CA (Figure 1). The wall is required to repair the slope failure that occurred along the southbound edge of the highway.

## PROJECT DESCRIPTION

The existing alignment was constructed in the 1930's as a local road, and was later consolidated into the State Highway system. As-builts of the original road are not available. As-builts of adjacent portions of HWY 001 from this time indicate the surface was oiled gravel in the 1930's.

At the time of the storm damage event, the roadway consisted of AC pavement configured as two 12 foot lanes with minimal paved shoulders (0-2 feet). The alignment at the site is a tangent section, and the existing roadway is crowned. Before the storm damage occurred, this long straight stretch was striped with a broken yellow line to allow passing.

In May 2009, a small vertical scarp developed in the south bound traveled way as a result of the failure of a 45 foot long section of coastal bluff. Caltrans Maintenance forces repaired the traveled way and attempted to stabilize the site by covering the exposed slide area with plastic and by controlling the flow from the existing culvert at PM 2.43. This initial failure also damaged an existing 8 inch transite water

line belonging to the North Gualala Water Company (NGWC) which supplies potable water for domestic and business use and fire suppression for a majority of Gualala area. The water company repaired, and subsequently relocated their line to the east side of the highway.

The project was identified as a “storm damage location” during the winter of 2009/2010. In October 2009, the slide accelerated following the first seasonal rainstorm event. At this time the bluff dropped an additional 9 inches, which resulted in significant failure of the traveled way. As a result of the declared storm damage event, an emergency project was executed to realign the roadway away from the failure as well as repair the culvert outlet to arrest further damage to the failing bluff. The FHWA Damage Assessment Form (DAF) signed 2/1/2010 noted “Slipout/Slide resulting in roadway damage, drainage system failure and water utility line breakage.”

Pictures of the failed bluff and shoulder are provided below.



(Photos taken October 15, 2009)

The slope failure is characterized as a coastal bluff failure caused by heavy winter rains, coastal erosion and drainage outlet pipe separation. At this location, District 1 plans to construct a soldier pile wall to repair the failing slope and support the roadway. The project scope includes restoring the tangent alignment, shoulder widening, and associated minor drainage improvements. The cross culvert

located at PM 2.43 will be replaced or relocated. A vicinity map showing the project location (Figure 1) and a Site Plan (Figure 2) are attached.

The proposed wall is 150 feet in length with a maximum wall height of 10 feet. The restored alignment will consist of two 12 foot lanes with 4 foot paved shoulders.

## **EXCEPTIONS**

The recommendations contained in this report are based on a review of geotechnical/geologic literature, a subsurface investigation, laboratory testing of soil samples, geotechnical calculations and field observations.

Subsurface conditions were evaluated only at the boring locations and may deviate elsewhere within the Project Limits. The elevations reported in this memorandum are with respect to Mean Sea Level (MSL).

## **REFERENCES**

Davenport, C.W., 1984, DMG Open-File Report 84-48, Geology and Geomorphic Features Related to Landsliding, Gualala 7.5' Quadrangle, Mendocino County, California Scale 1:24,000

*"Gualala, Calif"* 7.5 Minute Topographic Quad Map 38123-G5-TF-024 7.5, United States Geological Survey (USGS), 1966, Photorevised 1977.

Saucedo, G.J. et. al. "GIS data for the Geologic Map of California", USGS, 2000 Digitized from the 1977 Geologic Map of California by C.W. Jennings.

US Department of Transportation, Federal Highway Administration – California Division, Damage Assessment Form (DAF) Title 23, Inspection date October 14, 2009.

### Caltrans Reports

01-MEN-001-PM 2.43 FHWA Damage Assessment Form (DAF) signed 2/1/2010

01-MEN-001-PM 2.43 Director's Order – Funds Request (Storm Damage) signed 11/9/2009

Caltrans Corrosion Guidelines Version 2.0, November 2012

Preliminary Caltrans Design Plans dated 07/2012

Caltrans Bridge Design Specifications Section 5, 8/2004

Caltrans Soil and Rock Logging, Classification, and Presentation Manual, 2010 Edition.

Caltrans As-Built Plans and District 1 Materials Laboratory Records (Various)

## **FIELD INVESTIGATION AND TESTING PROGRAM**

A total of four borings were completed in July 2010 (Figure 2). The borings were advanced using a truck mounted Acker MPCA drill rigs using a 94-mm HXB casing equipped with a steel finger bit or diamond impregnated core bit.

Samples of the soil and bedrock from the borings were obtained by punch core, coring and a 1.4-inch (inside diameter) Standard Penetration Test (SPT) sampler driven with an automatic 140-pound hammer dropped 30 inches. The blows required to drive the samplers were recorded for each 6 inches of penetration or fraction thereof (ASTM D1586-11 Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils).

Visual classifications were made in accordance to the Caltrans Soil and Rock Logging, Classification, and Presentation Manual 2010 Edition which conforms to ASTM D2488-09a Standard Practice for Description and Identification of Soils (Visual-Manual Procedure).

A slope inclinometer (SI) casing was installed into one boring (RC-10-001). The annular space around the casing was backfilled with grout. The remaining three borings, RC-10-002, RC-10-003 and RC-10-004 were completed by installing slotted piezometer casings with #8 sand backfilled in the annular space. The borings were completed at the surface with traffic-rated access boxes. Inclinometer readings were obtained between January 2009 and September of 2010. A summary of the borings and inclinometer monitoring results are summarized in Table 1. The SI data are included in Appendix A.

**TABLE 1**  
**BORING AND INCLINOMETER DATA SUMMARY**

<b>I.D.</b>	<b>STATION/ OFFSET</b>	<b>DEPTH OF BORING (ft, bgs)</b>	<b>SURFACE ELEVATION (ft, MSL)</b>	<b>DATE COMPLETED</b>	<b>DEPTH TO TKfs ROCK (ft, bgs)</b>	<b>DEPTH TO FAILURE SURFACE (ft, bgs)</b>
<b>RC-10-001</b>	131+41.64 RT 9.48'	50	80.37	7/14/2010	14	N/A
<b>RC-10-002</b>	131+81.23 RT 11.02'	35	80.20	7/21/2010	15	No SI installed
<b>RC-10-003</b>	131+07.37 RT 10.90	40.1	80.42	7/27/2010	12.5	No SI installed
<b>RC-10-004</b>	131+50.02 RT 8.94'	80	80.31	7/27/2010	N/A	No SI installed

The boring locations and wall layout line are shown on Figure 2.

**LABORATORY TESTING**

Laboratory testing of soil samples obtained from boring RC-08-001 was performed at Caltrans' District 1 Materials Laboratory in Eureka, California. The following tests were performed:

- Corrosivity test (pH and Resistivity) (CA Test Method No. 643)

Test Results are included in Appendix B.

## **SITE GEOLOGY AND SUBSURFACE CONDITIONS**

### **Site Description**

Currently the road surface is approximately 25 feet wide with narrow to nonexistent paved shoulders and 2-10 foot wide unpaved shoulders. The slope failure currently impacting the highway is a fill slope failure with an estimated thickness of 5 to 8 feet. The wall layout line is approximately 40 feet beyond the ETW of the existing northbound lane (Figure 2).

Maintenance has reported that the site has been stable since the culvert separation was repaired. The project will restore the roadway alignment with 4 foot paved shoulders.

### **Site Geology**

A geologic map of the area is provided in Figure 3. Bedrock within the project limits is mapped as Tertiary to Cretaceous age rock of the Gualala Formation, Anchor Bay Member (Kga), consisting of sandstone, mudstone and conglomerate.

The bedrock at the site is gray to very dark gray, medium to fine-grained, slightly weathered to decomposed sandstone, siltstone and shale. The bedrock is overlain by Quaternary marine terrace deposits (Qmts) and beach sands (Qbs) as well as alluvium (Q) in existing creek drainages and their floodplains.

The damage evidenced in the roadway is the result of severe storms (high rainfall intensities and totals) that occurred in the winter of 2009/2010. During this time, the existing slope became saturated and failed near the hinge point of the roadway due to a culvert failure, causing oversteepening and further failure of the slope. There is no evidence of larger (global) instability at the site.

### **Subsurface Conditions**

District 1 Materials Laboratory records and As-Built plan sets indicate that the original gravel roadway surface has had few thin blanket overlays. As-builts of the original road were not found. As-builts of adjacent portions of HWY 001 from this time indicate the surface was oiled gravel in the 1930's. The borings encountered 1 to 1.8 feet of AC surfacing. Note all borings were located in failed pavement areas within AC patches. The asphalt concrete is underlain by a 1.5 to 2 foot of base material consisting of moist clayey sand with gravel. Beneath the existing structural section, the subsurface material becomes a moist sand, silty sand or clayey sand (with some gravel) to a depth of 10 to 20 feet.

The depth to bedrock ranged between 14 and 30 feet. The bedrock consists of interbedded sandstone, siltstone and shale that ranged from fresh to very intensely weathered, soft to hard and moderately to very intensely fractured. Bedrock throughout all the borings contained layers of varying thicknesses that were decomposed.

Logs of Test Borings (LOTBs) will be provided at a future date to be included in the plans.

**Groundwater Conditions**

Groundwater levels were checked in the piezometers installed in borings RC-10-002, RC-10-003 and RC-10-004 during and just after their installation. The following measurements were recorded:

**TABLE 2  
 WATER LEVEL MEASUREMENTS<sup>1</sup>**

<b>Date Measured</b>	<b>RC-10-002</b> (ft, bgs)	<b>RC-10-003</b> (ft, bgs)	<b>RC-10-004</b> (ft, bgs)
07/28/10	12.3	6.0 <sup>2</sup>	N/A <sup>3</sup>
08/25/2010	13.0	15.3	15.8
10/220/2010	13.4	15.6	15.9
02/02/2011	10.4	13.2	14.4
04/18/2011	9.9	14.3	13.7
06/14/2011	11.95	13.65	14.7
04/12/2012	5.4	12.2	12.1

Notes: 1 - All water levels measured from the top of casing.  
 2 - Short time after construction.  
 3 - Not yet constructed.

**CORROSION EVALUATION**

Chemical analyses were performed on samples collected from borings and Wacker brass tubes to evaluate corrosion potential of the on-site soils. Testing was performed by the Caltrans Geotechnical

Laboratory in Sacramento, CA and at the District1 Materials Laboratory in Eureka, CA.  
Table 3 summarizes the test results.

**TABLE 3**  
**SOIL CORROSION TEST SUMMARY**

<b>BOREHOLE ID</b>	<b>DEPTH (ft, bgs)</b>	<b>pH</b>	<b>MINIMUM RESISTIVITY (ohm-cm)</b>
RC-10-001	3- 3.5	6.59	8947
RC-10-001	15 - 15.5	5.89	1108
RC-10-001	16 – 16.5	7.01	7928
RC-10-001	20 – 20.5	6.90	1076

The results of the corrosion tests are attached in Appendix B.

Based on the Caltrans Corrosion Guidelines (2012 version 2.0) and the laboratory test results, the site soils may be considered non-corrosive to steel and concrete.

As per Section 6.2 of the Guidelines (Survey of Site Conditions), we note that the location is within 200 feet of the Pacific Ocean in a marine atmosphere.

### **SEISMIC RECOMMENDATIONS**

For LRFD design Extreme Event (Case 3) Seismic design criteria, we consulted Reza Mahallati of the Office of Geotechnical Design North in Sacramento (Translab). Utilizing the Caltrans ARS online tool (V2.1.06), we recommend using the USGS 5% in 50 years hazard (2008) curve, which yields a spectral acceleration of **0.64g** at period = 0 seconds. The horizontal seismic coefficient (Kh) is typically taken as  $\frac{1}{3}$  to  $\frac{1}{2}$  of the Pga; we recommend using Kh = 0.2 for LRFD Extreme Event analysis.

For further discussion of seismic considerations, please contact Mr. Reza Mahallati directly at (916) 227-1033.

The ARS online data sheet utilized is attached to this report as Appendix C.

**GEOTECHNICAL AND FOUNDATION RECOMMENDATIONS**

**Wall Location and Height**

We recommend a Soldier Pile and Lagging wall be constructed to retain the roadway prism and the underlying soils. The wall layout line is shown on the attached Site Plan sheet (Figure 2). The wall, as shown, will extend from roadway station 506+00 to station 513+00 for a wall length of 150 feet. The maximum wall height is 10 feet to finish grade. The attached Profile Along the Wall Layout Line (Figure 4) shows the approximate elevations of the top of wall, finish grade and bedrock surface along the wall.

**Design Parameters**

Soil strength parameters for design were determined by using the standard penetration test (SPT) N values obtained from the vertical boreholes, published correlations and laboratory data.

**TABLE 4**

**Soil Design Properties**

<b>LAYER</b>	<b>APPROXIMATE THICKNESS (at WLOL) (ft)</b>	<b>TOTAL UNIT WEIGHT (pcf)</b>	<b>ANGLE OF INTERNAL FRICTION (degrees)</b>	<b>COHESION (c, psf)</b>
Silty SAND with GRAVEL	0-15	115	32	0
Interbedded Sandstone/Shale	15-50	135	35	400

See the attached Subsurface Geology Along the WLOL (Figure 4) and Design Cross Section sheet (Figure 5) for subsurface material representation. We recommend designing for a sloping ground condition below the wall (-  $\beta$ ) of -14.5 degrees from the bottom of the lagging. We recommend a design pile tip elevation of 55 feet.

Overall (global) stability was analyzed utilizing Slope/W (2007). The Spencer Method of limit equilibrium was used to compute the factor of safety as 1.7, conforming to the requirements of the Caltrans Bridge Design Specifications (5.2.2.3).

To conform to AASHTO Bridge Design Specifications 11.6.2.3 (Overall Stability), we recommend a resistance factor of 0.75 be applied at the Service 1 Load Combination.

### **Hydrostatic Forces**

For wall design we recommend that the groundwater level be assumed to be at bottom of lagging.

Design pressures should be based on moist unit weights of the soil above the groundwater surface and saturated unit weights should be applied below the groundwater surface.

### **EARTH WORK AND WALL BACKFILL RECOMMENDATIONS**

The wall is designed so that the design height H provides a berm in front of the wall face at least 4 feet wide measured from the face of the wall and provides a design grade at least 2 feet below finished grade measured at the face of the wall (Caltrans Bridge Design Specifications, 5.8.6.1). It is anticipated that portions of the fill slope below the roadway will be removed to construct the wall.

To assure adequate wall drainage, shims should be placed between the timber lagging in conjunction with free-draining backfill material. We recommend a layer of Class A filter fabric be attached to the inside surface of the lagging to prevent migration of permeable material through the wall face.

### **RIPPABILITY**

Based on the boring logs and field observations, we expect the material within the anticipated limits of excavation to be rippable. The boring locations are shown in Figure 2.

### **CONSTRUCTION CONSIDERATIONS**

The typical sequence of Soldier Pile Wall installation shall follow the Structure Plans and the Special Provisions for this project.

### **Excavation and Drilling Difficulties**

Caving conditions may be encountered during drilling holes for piles and drilling for ground anchor installation due to the granular soils and the very intensely fractured rock.

Groundwater may be encountered in the drilled holes for piles and ground anchor installation.

Temporary casing or tremie seals shall be furnished and placed where necessary to control water or to prevent caving of the hole in conformance with the provisions in Section 49-4.03, "Drilled Holes," of the Standard Specifications.

Difficult drilling for piles is anticipated due to the presence of caving conditions, ground water and traffic control.

### **Hazardous Materials**

The Tertiary-Cretaceous aged age rock of the Gualala Formation, Anchor Bay Member (Kga), Quaternary marine terrace deposits (Qmts) and beach sand deposits (Qbs) as well as colluvium deposits (Q) within the Project Limits do not contain NOA.

### **Utility (Water) Line**

An 8 inch private utility water line belonging to the North Gualala Water Company (NGWC) was moved to the east side of Route 001 as a result of the slope failure. The utility company would like to restore the water line to the west side of the highway along the wall if possible. Coordination between Caltrans North Region Right of Way, Design and Construction, District 1 Permits, Headquarters Structure Design and Construction, and Mr. John Bower of the North Gualala Water Company will be necessary to accomplish this.

## **PROJECT INFORMATION**

Standard Special Provisions S5-280, "Supplemental 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 for 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 addressee(s) of this report via electronic mail.

*Data and information attached with the project plans are:*

*Log of Test Borings for Seaside Beach*

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

- A. *Foundation Report Big Gulch Retaining Wall No.XXXXX dated May 1, 2013*

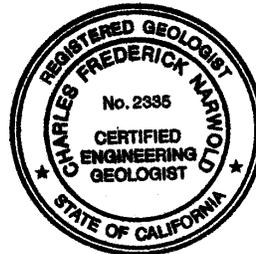
*Data and Information available for observation at the Transportation Laboratory:*

- A. *Borehole Core Samples*

If you have any questions or need more information, please contact Kathy Gallagher at (707) 441-2024 or Charlie Narwold at (707) 445-6036.



KATHY GALLAGHER  
Transportation Engineer  
Office of Geotechnical Design North



A handwritten signature in black ink that reads "C-N-R".

CHARLIE NARWOLD  
Senior Engineering Geologist  
Office of Geotechnical Design North

### **List of Figures**

- Figure 1 - Vicinity Map
- Figure 2 - Site Plan
- Figure 3 - Project Geologic Map
- Figure 4- Subsurface Geology Along Wall Layout Line
- Figure 5 - Design Cross Section

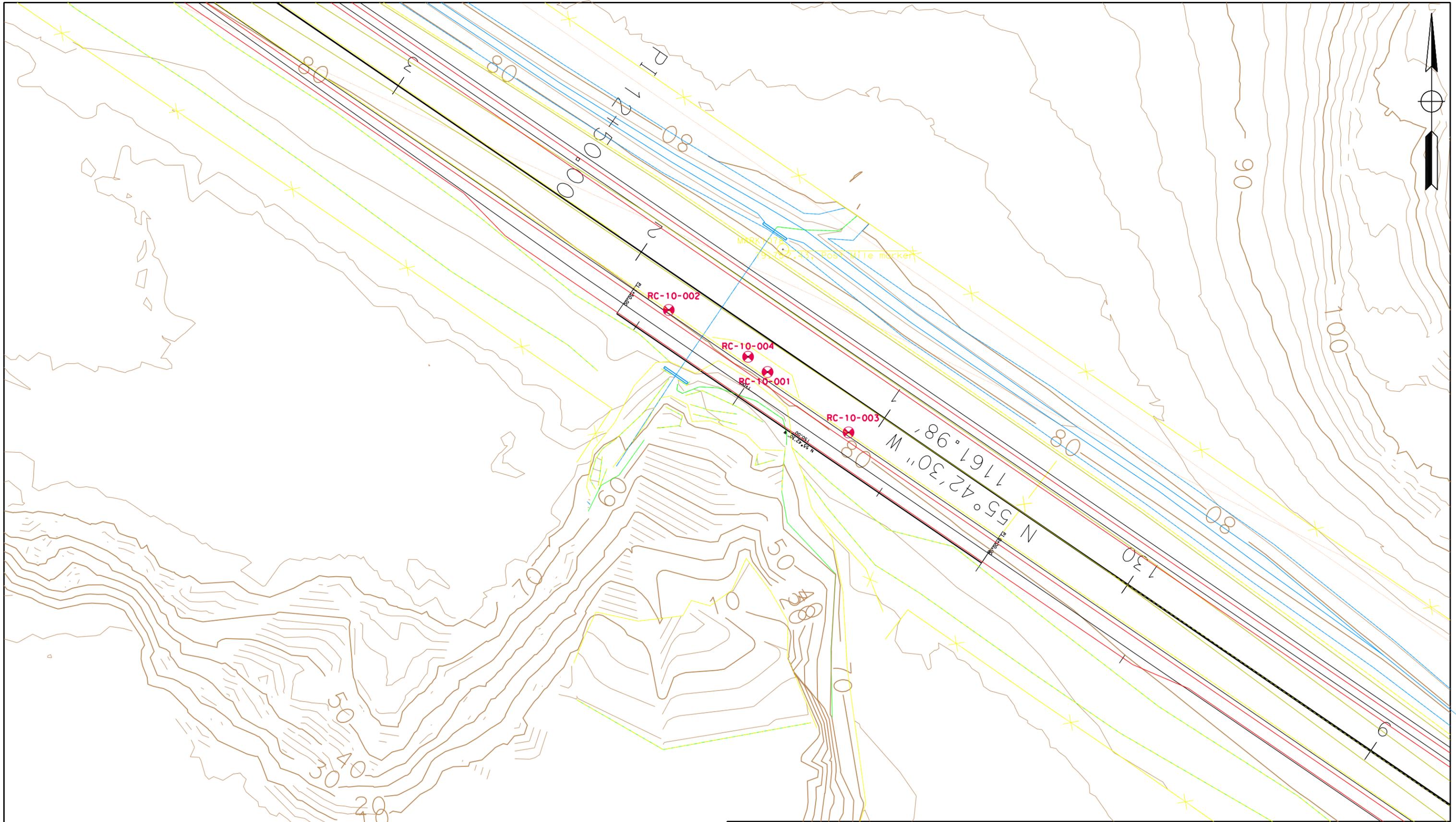
### **Appendices**

- Appendix A: Slope Inclinator Monitoring Results
- Appendix B: Laboratory Test Summary and Data Sheets
- Appendix C: ARS Online Data Sheet

C: RMahallati (E-copy)  
GS File Room (email [gs\\_file\\_room@dot.ca.gov](mailto:gs_file_room@dot.ca.gov))  
Structure Construction RE Pending File (email [RE\\_pending\\_file@dot.ca.gov](mailto:RE_pending_file@dot.ca.gov))  
Project Manager



	Department of Transportation Division of Engineering Services Geotechnical Services Office of Geotechnical Engineering - North	EA: 01-497711	<b>PROJECT LOCATION MAP</b>
		Date: April 2013	
			<b>FOUNDATION REPORT</b>

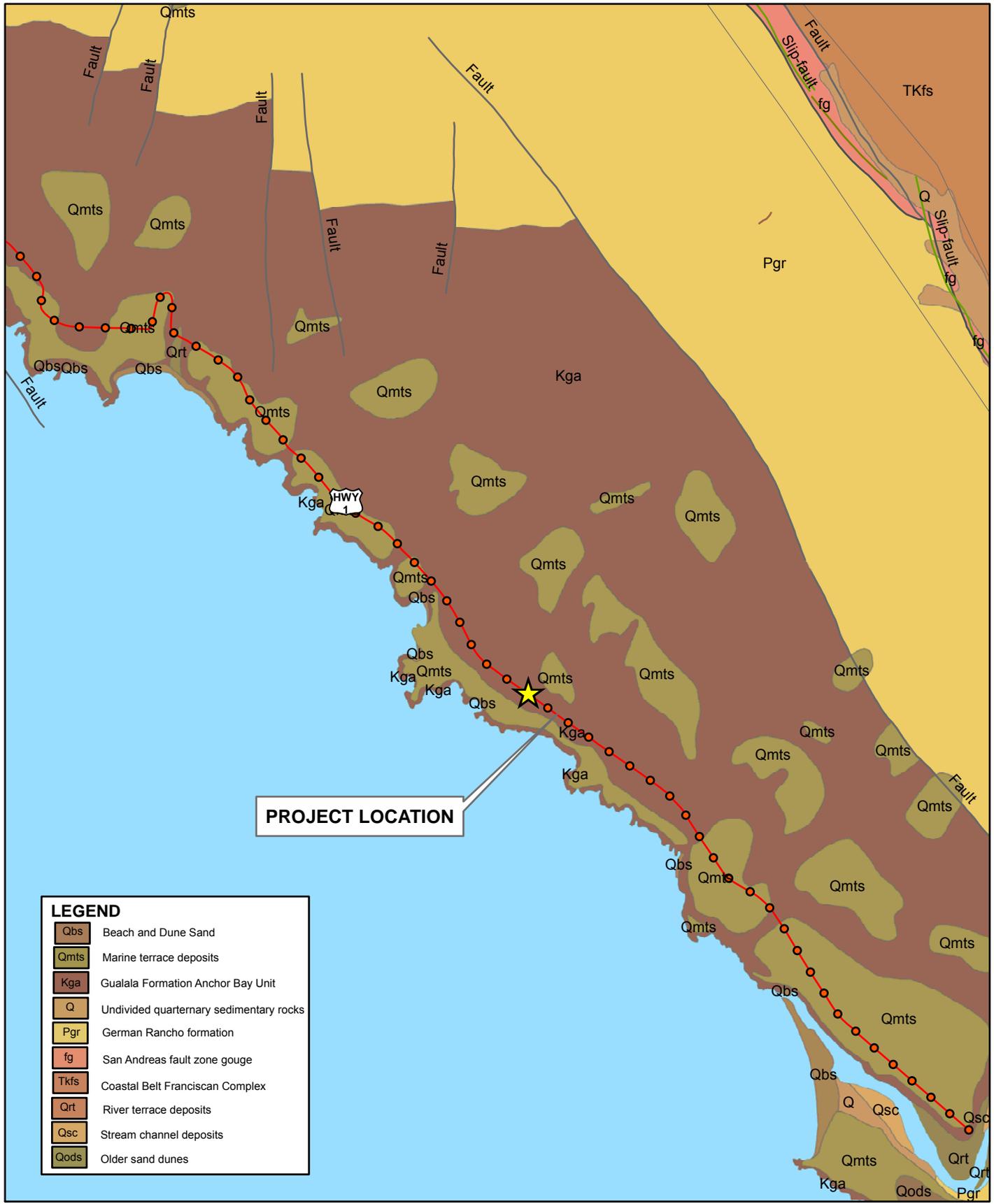


RC-10-00X = Boring Location and Number



Department of Transportation  
 Division of Engineering Services  
 Geotechnical Services  
 Office of Geotechnical Design North  
 Branch B

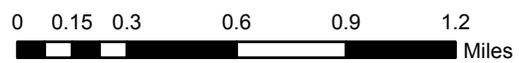
EFIS: 0100020262	SITE PLAN	
DATE: April 5, 2013	BIG GULCH RETAINING WALL	
01-497711 01-MEN-001-PM 2.4/2.5		FIGURE 2



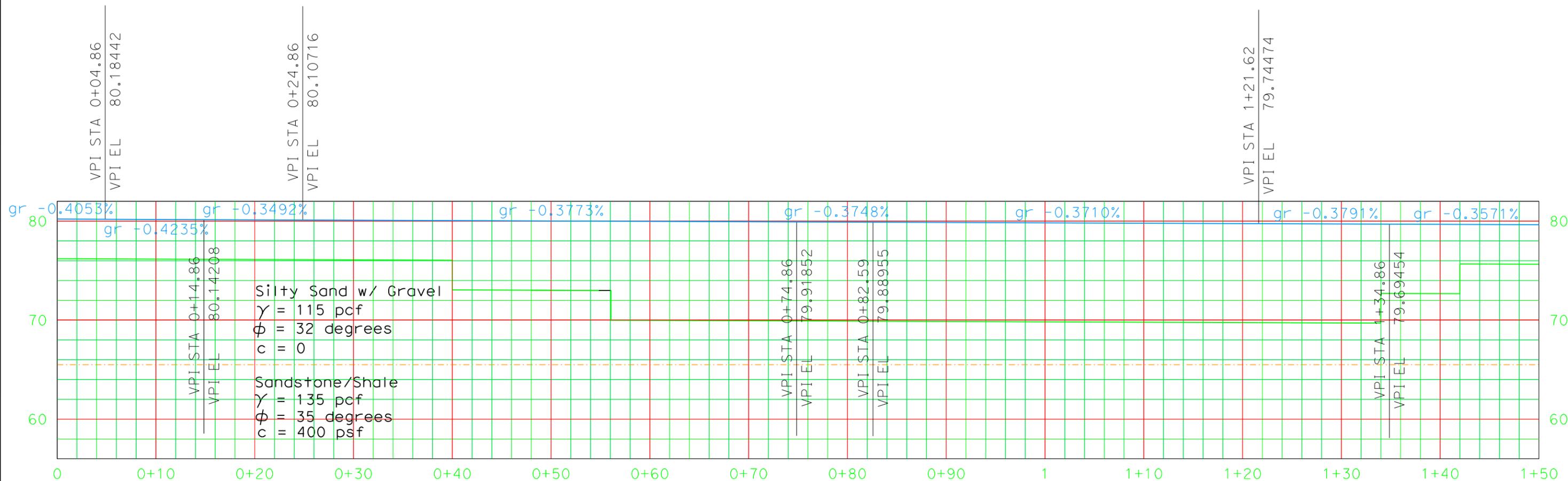
**PROJECT LOCATION**

LEGEND	
Qbs	Beach and Dune Sand
Qmts	Marine terrace deposits
Kga	Gualala Formation Anchor Bay Unit
Q	Undivided quarternary sedimentary rocks
Pgr	German Rancho formation
fg	San Andreas fault zone gouge
Tkfs	Coastal Belt Franciscan Complex
Qrt	River terrace deposits
Qsc	Stream channel deposits
Qods	Older sand dunes

Saucedo G.J. et. al. "GIS data for the geologic map of California", USGS, 2000  
Digitized from the 1977 Geologic Map of California by C.W. Jennings



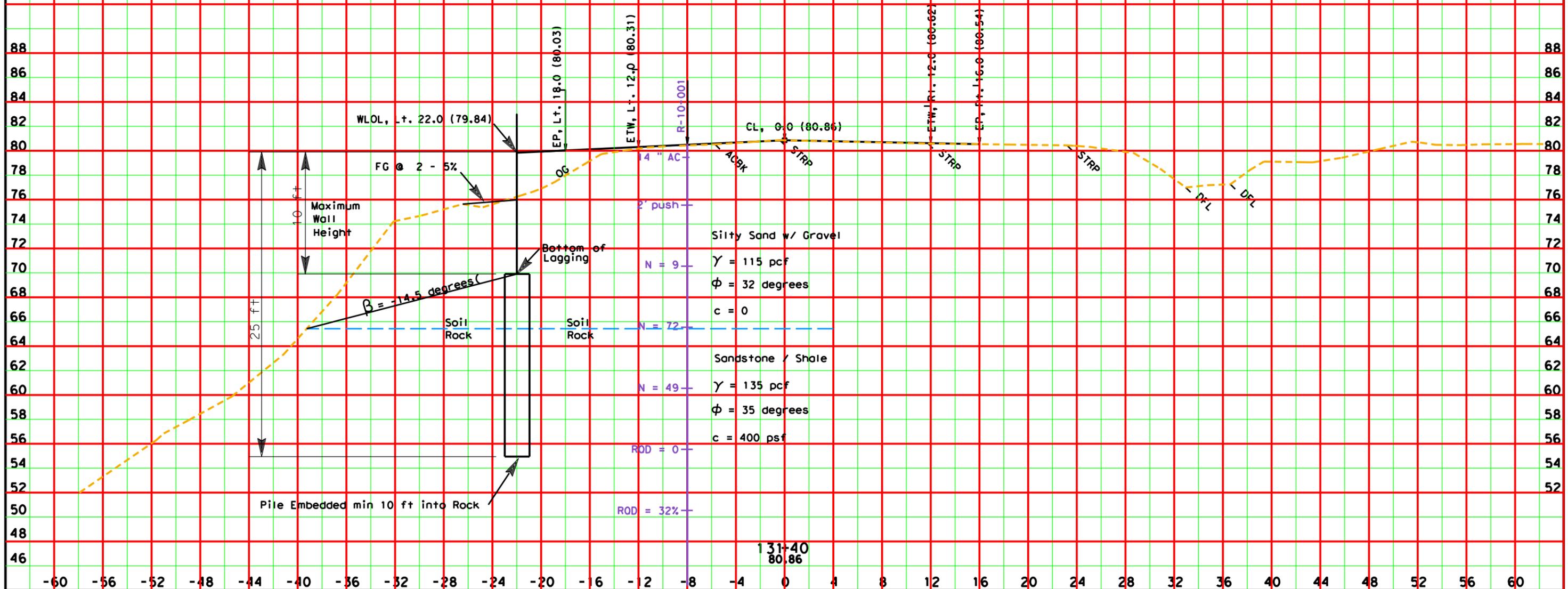
	EA: 01-497711	<b>GEOLOGIC MAP</b>
	Date: April 2013	
	<b>FOUNDATION REPORT</b>	Figure 3



Department of Transportation  
 Division of Engineering Services  
 Geotechnical Services  
 Office of Geotechnical Design North  
 Branch B

EFIS: 0100020262	SUBSURFACE GEOLOGY ALONG WALL LAYOUT LINE	
DATE: MARCH 20, 2014		
01-497711 01-MEN-001-PM 2.4/2.5		FIGURE 4

# DESIGN STUDY ONLY PROPOSED WALL SECTION



DATE: 4/30/2013

Project: 01-49771 File: S:\TRANPRO\Office of Geotechnical Design Branch B\KG\GUALALA\Figures\Revised Def Sketch.DGN

SCALE: 1" = 4' Horiz.  
1" = 4' Vert.

**BIG GULCH SOLDIER PILE WALL  
TYPICAL WALL SECTION**

All Dimensions are US Survey Feet

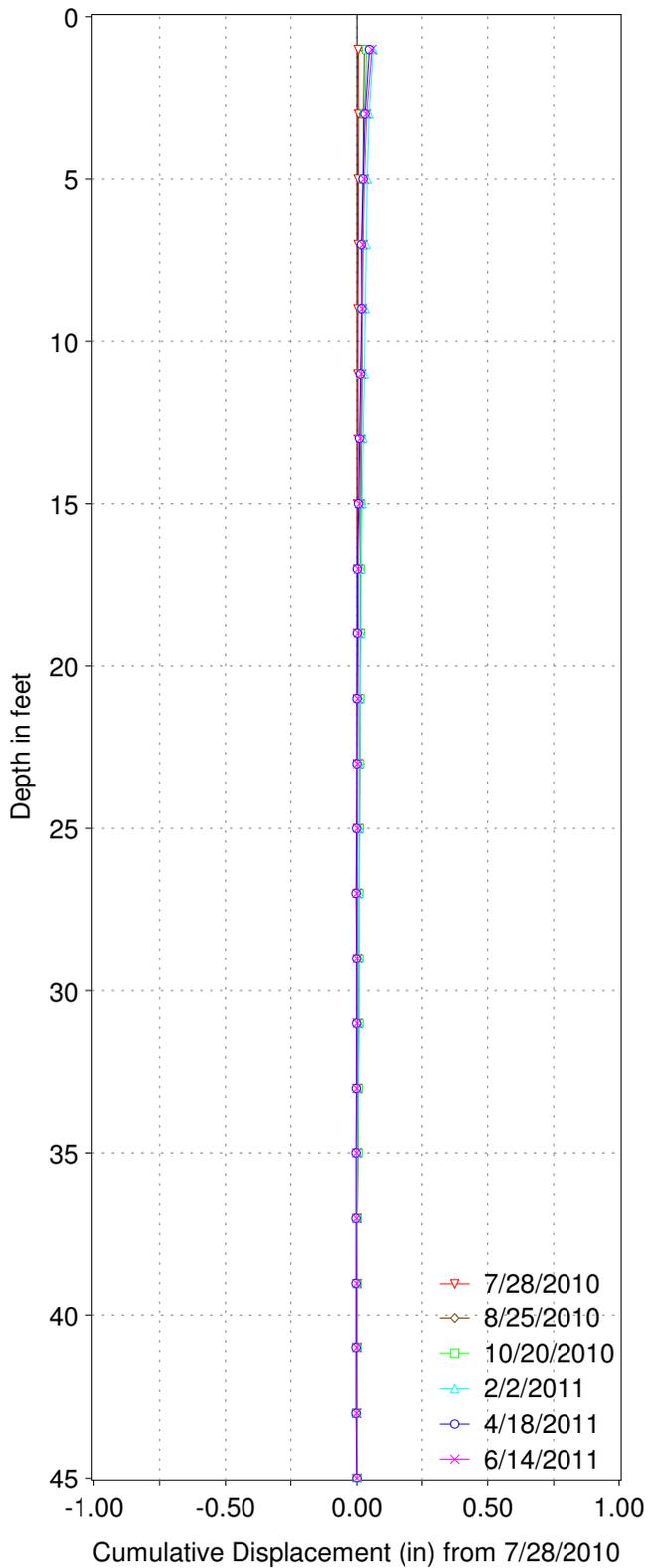
SHEET 1 OF 1

# APPENDIX A

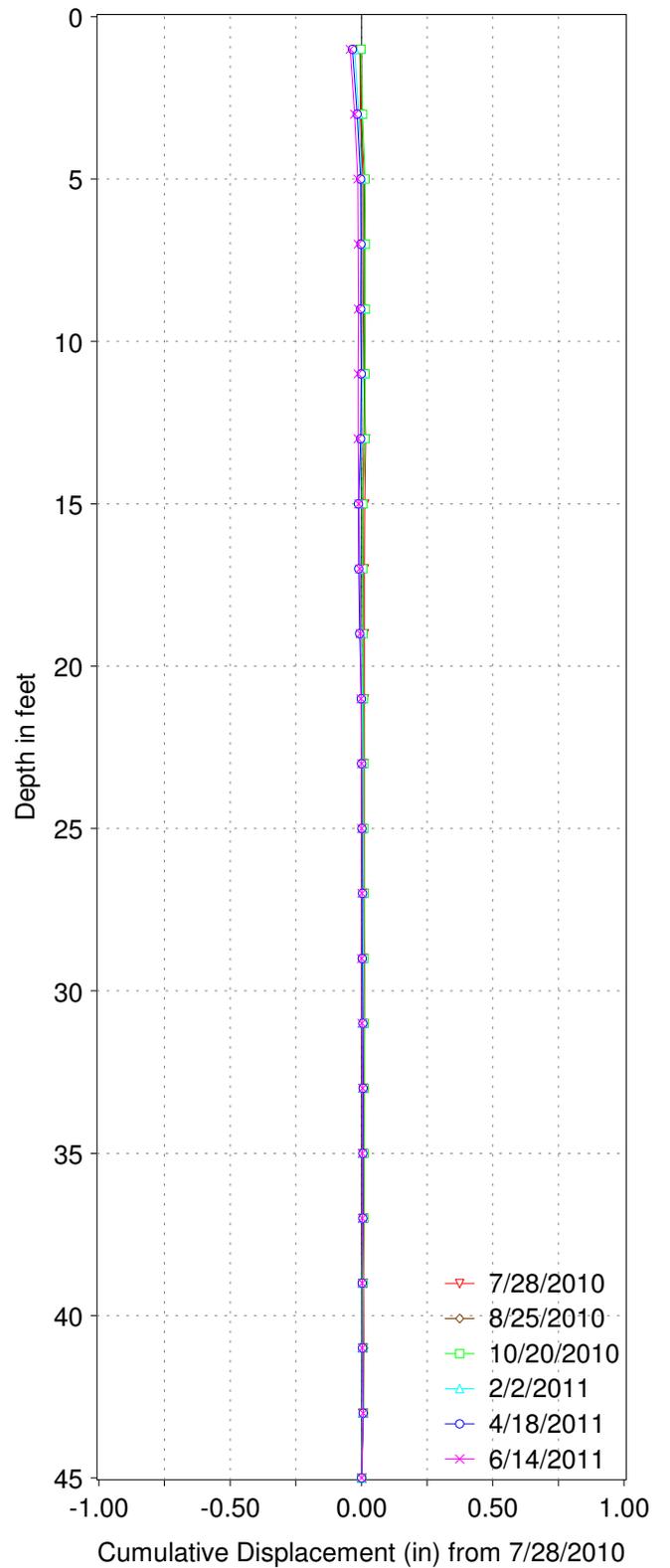
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## SLOPE INCLINOMETER MONITORING RESULTS

GUALAL R-10-001, A-Axis



GUALAL R-10-001, B-Axis



INCLINOMETER MONITORING RESULT

01-MEN-01-PM2.5  
 Site: Gualala R-10-001  
 E.A. NO.: 01000000689 phase 3

Depth of Inclinator Casing: 47.7 ft  
 A0 Direction: 255 deg (Magnetic North)  
 Location (WGS):

# APPENDIX B

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LABORATORY TEST SUMMARY AND DATA SHEETS

Data Reporting Form - California Test 643

15 ft

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION  
**SAMPLE IDENTIFICATION CARD**  
 TL-0101 (REV. 10/97) 7541-6002-4

CARD NUMBER  
**C 900276**

PRELIMINARY TESTS  
 PROCESS TESTS  
 ACCEPTANCE TESTS  
 INDEPENDENT ASSURANCE TESTS  
 DIST. LAB  
 TRANS. LAB  
 SPECIAL TESTS

SAMPLE SENT TO:  
 HDQTRS. LAB  
 BRANCH LAB  
 DIST. LAB

SHIPMENT NO. 1  
 AUTHORIZATION NO.

FIELD NO. RC-10-001-15  
 DIST. LAB NO. 60239'A  
 LOT NO.

SAMPLE OF SOIL  
 FOR USE IN FOUNDATION REPORT

SAMPLE FROM BOILING  
 DEPTH 15 feet  
 LOCATION OF SOURCE RC-10-001 BOILING

THIS SAMPLE IS SHIPPED IN 1 AND IS ONE OF 1 A GROUP OF 1 SAMPLES REPRESENTING DEPTH (TONS, GALS, BBLs, STA, ETC.)  
 OWNER OR MANUFACTURER  
 TEST RESULTS DESIRED  NORMAL  PRIORITY  
 DATE NEEDED 12-1-2012

REMARKS  
PLEASE TEST FOR RESISTIVITY  
RESULTS TO KATH GALANORA 441-2024

COVER ADDITIONAL INFORMATION WITH LETTER  
 DATE SAMPLED 7/13/2010  
 BY K. GALANORA TITLE T.E. CIVIL  
 DIST. CO. RTE. PM 01-MEN-001-PM-205  
 LIMITS "BIG GREEN" SKI-DE

CONT. NO. 01-497703  
 FED. NO. 995 # 0100020262  
 RES. ENGR. OR SUPT.  
 ADDRESS  
 CONTRACTOR

Corrosion Test No. <u>60239 'A'</u>	EA: <u>01-497703</u> <u>0100020262</u>		
Tested By: <u>Julian Barbash</u> <u>Chidinielli</u>	Date: <u>10-18-12</u>		
Total Water Added (milliliters)	Soil Sample Resistance (Ohms)	Minimum Soil Resistance, $R_{min-T}$ (Ohms)	Sample Temperature, T
<u>15</u>	<u>4300</u>	$R_{min-T} = \frac{4300}{15} = 286.7$	<u>21.2 °C</u>
<u>25</u>	<u>1500</u>	$R_T = \frac{1500}{25} = 60$	
<u>35</u>	<u>1050</u>		
<u>40</u>	<u>1035</u>		
<u>45</u>	<u>990</u>		
<u>50</u>	<u>970</u>		
<u>55</u>	<u>980</u>		
Minimum Resistance of soil sample corrected to 15.5° C, $R_{min-15.5}$ $R_{min-15.5} = \frac{R_{min-T}(24.5+T)}{40} = \frac{970(24.5+21.2)}{40} = 1108$ (Ohms)			
Minimum Soil Resistivity, $P_{min-15.5}$ $P_{min-15.5} = R_{min-15.5} \times (\text{Soil Box Constant})^*$ $P_{min-15.5} = 1108 \times 40 = 44320$ (Ohm-cm)			
Resistance of water sample corrected to 15.5° C, $R_{15.5}$ $R_{15.5} = \frac{R_T(24.5+T)}{40} = \frac{60(24.5+21.2)}{40} = 30.6$ (Ohms)			
Resistivity of Water Sample, $p_{15.5}$ $p_{15.5} = R_{15.5} \times (\text{Soil Box Constant})^*$ $p_{15.5} = 30.6 \times 40 = 1224$ (Ohm-cm)			
Soil		pH Value	
pH= <u>5.89</u>		Water	

\*Where: Soil Box Constant for Small Box=1 cm and for Large Box=6.76 cm

Data Reporting Form - California Test 643 16 ft

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION  
**SAMPLE IDENTIFICATION CARD**  
 TL-0101 (REV. 10/97) 7541-6002-4 **C 900276**

PRELIMINARY TESTS  
 PROCESS TESTS  
 ACCEPTANCE TESTS  
 INDEPENDENT ASSURANCE TESTS

DIST. LAB  
 TRANS. LAB  
 SPECIAL TESTS

SAMPLE SENT TO:  
 HDQTRS. LAB  
 BRANCH LAB  
 DIST. LAB

SHIPMENT NO. \_\_\_\_\_ AUTHORIZATION NO. \_\_\_\_\_

SAMPLE OF \_\_\_\_\_  
 FOR USE IN SOIL FOUNDATION REPORT

SAMPLE FROM BOILING

DEPTH 16 feet  
 LOCATION OF SOURCE RC-10-001 BOILING

THIS SAMPLE IS SHIPPED IN \_\_\_\_\_ AND IS ONE OF \_\_\_\_\_ A GROUP OF \_\_\_\_\_  
 (NO. CONTAINERS) (ITEMS, GALS, BBLs, STA., ETC.) DEPTH

OWNER OR MANUFACTURER \_\_\_\_\_

TOTAL QUANTITY AVAILABLE \_\_\_\_\_ TEST RESULTS DESIRED  NORMAL  PRIORITY \_\_\_\_\_ DATE NEEDED 12-1-2012

REMARKS PLEASE TEST PAH RESISTIVITY (CORROSION TESTS)  
RESULTS TO FATH GASBORNER 441-2024

COVER ADDITIONAL INFORMATION WITH LETTER  
 DATE SAMPLED 7/13/2010  
 BY K.G. GARDNER TITLE T.E. CIVIL  
 DIST. CO. RTE, PM 01 - MEN - 001 - PM - 215  
 "Bike Given" SKID

LIMITS \_\_\_\_\_

CONT. NO. 01-497703  
 FED. NO. 995 # 0100020262  
 RES. ENGR. OR SUPT. \_\_\_\_\_  
 ADDRESS \_\_\_\_\_  
 CONTRACTOR 60239'8'

Corrosion Test No. <u>60239'8'</u>		EA: <u>01-497703</u> <u>0100020262</u>	
Tested By: <u>Julian Barbash</u> <u>D Ghidainelli</u>		Date: <u>10-18-12</u>	
Total Water Added (milliliters)	Soil Sample Resistance (Ohms)	Minimum Soil Resistance, $R_{min-T}$	Sample Temperature, T
15	10500	$R_{min-T} = 7000$ (Ohms)	T = <u>20.8</u> °C
25	6550	Resistance of Water, $R_T$	
35	7000	$R_T =$ _____ (Ohms)	
40	7400	Minimum Resistance of soil sample corrected to 15.5° C, $R_{min-15.5}$	
		$R_{min-15.5} = R_{min-T}(24.5+T) / 40$	
		$R_{min-15.5} = 7928$ (Ohms)	
		Minimum Soil Resistivity, $P_{min-15.5}$	
		$P_{min-15.5} = R_{min-15.5} \times (\text{Soil Box Constant})^*$	
		$P_{min-15.5} =$ _____ (Ohm-cm)	
		Resistance of water sample corrected to 15.5° C, $R_{15.5}$	
		$R_{15.5} = R_T(24.5+T) / 40$	
		$R_{15.5} =$ _____ (Ohms)	
		Resistivity of Water Sample, $p_{15.5}$	
		$p_{15.5} = R_{15.5} \times (\text{Soil Box Constant})^*$	
		$p_{15.5} =$ _____ (Ohm-cm)	
		pH Value	Water
		Soil pH = <u>7.01</u>	

\*Where: Soil Box Constant for Small Box=1 cm and for Large Box=6.76 cm

MAIL TO SAME DESTINATION AS SAMPLE

**Data Reporting Form - California Test 643** 20 ft

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION  
**SAMPLE IDENTIFICATION CARD**  
 TL-0101 (REV. 10/97) 7541-6002-4  
 CARD NUMBER  
**C 900276**

**SAMPLE SENT TO:**  
 PRELIMINARY TESTS  
 PROCESS TESTS  
 ACCEPTANCE TESTS  
 INDEPENDENT ASSURANCE TESTS  
 DIST. LAB  
 TRANS. LAB  
 SPECIAL TESTS

**FIELD NO.** RC-10-001-15  
**DIST. LAB NO.** 60239'C  
**LOT NO.** 60239'C  
**P.O. OR REQ. NO.**  
**SHIPMENT NO.** 1  
**AUTHORIZATION NO.**

**SAMPLE OF** SOIL  
**FOR USE IN** FOUNDATION REPAIR  
**SAMPLE FROM** BORING  
**DEPTH** 20 feet  
**LOCATION OF SOURCE** RC-10-001 BORING  
**MEN 001 PN 2.5**

**THIS SAMPLE IS SHIPPED IN** 1  
**(NO. CONTAINERS)**  
**OWNER OR MANUFACTURER**  
**SAMPLES REPRESENTING** DEPTH  
**(IONS, GALS, RBLS, STA, ETC.)**

**TOTAL QUANTITY AVAILABLE**  
**TEST RESULTS DESIRED**  NORMAL  PRIORITY  
**DATE NEEDED** 12-1-2012

**REMARKS**  
 PLEASE TEST FOR RESISTIVITY  
 (CORROSION TESTS)  
 RESULTS TO KATHY GALDORA 441-2024

**COVER ADDITIONAL INFORMATION WITH LETTER**  
**DATE SAMPLED** 7/13/2010  
**BY** K. GALDORA  
**TITLE** T.E. CIVIL  
**DIST. CO. RTE, PM** 01-MEN-001-PM-2.5  
**LIMITS** "BIG GUYEN" SIDE

**CONT. NO.** 01-497703  
**FED. NO.** CAS # 0100020262  
**RES. ENGR. OR SUPT.**  
**ADDRESS**  
**CONTRACTOR**

Corrosion Test No. 60239'C EA: 01-497703 0100020262		Date: 10-18-12	
Tested By: Julian Barbash D Ghidinelli		Sample Temperature, T T= 20.8 °C	
Total Water Added (milliliters)	Soil Sample Resistance (Ohms)	Minimum Soil Resistance, R <sub>min-T</sub>	Resistance of Water, R <sub>T</sub> (Ohms)
15	3150	R <sub>min-T</sub> = 9.50	(Ohms)
25	1010	Minimum Resistance of soil sample corrected to 15.5° C, R <sub>min-15.5</sub>	
35	950	R <sub>min-15.5</sub> = R <sub>min-T</sub> (24.5+T) / 40 = 9.50 (24.5 + 20.8) / 40	
40	970	R <sub>min-15.5</sub> = 1076 (Ohms)	
Minimum Soil Resistivity, ρ <sub>min-15.5</sub>		Resistance of water sample corrected to 15.5° C, R <sub>15.5</sub>	
ρ <sub>min-15.5</sub> = R <sub>min-15.5</sub> x (Soil Box Constant)*		R <sub>15.5</sub> = R <sub>T</sub> (24.5+T) / 40	
ρ <sub>min-15.5</sub> = _____ (Ohm-cm)		R <sub>15.5</sub> = _____ (Ohms)	
Resistivity of Water Sample, ρ <sub>15.5</sub>		Resistivity of Water Sample, ρ <sub>15.5</sub>	
ρ <sub>15.5</sub> = R <sub>15.5</sub> x (Soil Box Constant)*		ρ <sub>15.5</sub> = _____ (Ohm-cm)	
pH = 6.90		pH = _____	

\*Where: Soil Box Constant for Small Box=1 cm and for Large Box=6.76 cm

MAIL TO SAME DESTINATION AS SAMPLE

**60239'C**

Data Reporting Form - California Test 643 35 ft

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION  
**SAMPLE IDENTIFICATION CARD**  
 TL-0101 (REV. 10/97) 7541-6002-4  
 CARD NUMBER  
**C 900276**

PRELIMINARY TESTS  
 PROCESS TESTS  
 ACCEPTANCE TESTS  
 INDEPENDENT ASSURANCE TESTS  
 DIST. LAB  
 TRANS. LAB  
 SPECIAL TESTS

SAMPLE SENT TO:  
 HDQTRS. LAB  
 BRANCH LAB  
 DIST. LAB

SHIPMENT NO. \_\_\_\_\_  
 AUTHORIZATION NO. \_\_\_\_\_

SAMPLE OF \_\_\_\_\_  
 FOR USE IN SOIL FOUNDATION REPORT

SAMPLE FROM BORING

DEPTH 95 feet

LOCATION OF SOURCE RC-10-001 BORING

THIS SAMPLE IS SHIPPED IN 1 AND IS ONE OF 1 A GROUP OF \_\_\_\_\_

OWNER OR MANUFACTURER \_\_\_\_\_

TOTAL QUANTITY AVAILABLE \_\_\_\_\_  
 TEST RESULTS DESIRED  NORMAL  PRIORITY  
 DATE NEEDED 12-1-2012

REMARKS PLEASE TEST PH & RESISTIVITY

RESULTS TO KATH GALAGHER (CORROSION TESTS)

DATE SAMPLED 7/13/2012

BY K. Galagher TITLE T.E. CIVIL

01 MEN 001 PM 2.5  
"Big Gulch" slide  
01-497703  
0100020263

**60239 'D'**

Corrosion Test No. <u>60239 'D'</u>		EA: <u>01-497703</u>	
Tested By: <u>Julien Barbash</u>		Date: <u>10-18-12</u>	
Minimum Soil Resistance, $R_{min-T}$		Sample Temperature, T	
$R_{min-T} = \underline{790}$ (Ohms)		T = <u>20.9</u> °C	
Resistance of Water, $R_T$			
$R_T =$ _____ (Ohms)			
Minimum Resistance of soil sample corrected to 15.5° C, $R_{min-15.5}$			
$R_{min-15.5} = \frac{R_{min-T}(24.5+T)}{40} = \frac{790(24.5+20.9)}{40}$			
$R_{min-15.5} =$ <u>897</u> (Ohms)			
<b>Minimum Soil Resistivity, <math>\rho_{min-15.5}</math></b>			
$\rho_{min-15.5} = R_{min-15.5} \times (\text{Soil Box Constant})^*$			
$\rho_{min-15.5} =$ _____ (Ohm-cm)		Resistance of water sample corrected to 15.5° C, $R_{15.5}$	
$R_{15.5} = \frac{R_T(24.5+T)}{40}$			
$R_{15.5} =$ _____ (Ohms)			
<b>Resistivity of Water Sample, <math>\rho_{15.5}</math></b>			
$\rho_{15.5} = R_{15.5} \times (\text{Soil Box Constant})^*$			
$\rho_{15.5} =$ _____ (Ohm-cm)		pH Value	
Soil		Water	
pH = <u>7.02</u>		pH = _____	

\*Where: Soil Box Constant for Small Box=1 cm and for Large Box=6.76 cm

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION  
**SAMPLE IDENTIFICATION CARD**  
 TL-0101 (REV. 10/97) 7541-6002-4

CARD NUMBER  
**900277**

PRELIMINARY TESTS  
 PROCESS TESTS  
 ACCEPTANCE TESTS  
 INDEPENDENT ASSURANCE TESTS  
 DIST. LAB  
 TRANS. LAB  
 SPECIAL TESTS

**SAMPLE SENT TO:**  
 HDQTRS. LAB  
 BRANCH LAB  
 DIST. LAB

SHIPMENT NO. \_\_\_\_\_  
 AUTHORIZATION NO. \_\_\_\_\_

SAMPLE OF SOIL  
 FOR USE IN FOUNDATION REPORT

SAMPLE FROM BONNA

DEPTH 3 FT  
 LOCATION OF SOURCE BONNA

THIS SAMPLE IS SHIPPED IN \_\_\_\_\_  
 (NO. CONTAINERS) AND IS ONE OF \_\_\_\_\_  
 A GROUP OF \_\_\_\_\_  
 (TONS, GALS, BRLS, STA, ETC.)

OWNER OR MANUFACTURER \_\_\_\_\_  
 TOTAL QUANTITY AVAILABLE \_\_\_\_\_  
 TEST RESULTS DESIRED \_\_\_\_\_  
 NORMAL  PRIORITY  
 DATE NEEDED \_\_\_\_\_

REMARKS PLEASE RUN P<sub>n</sub> & P<sub>15.5</sub> T

COVER ADDITIONAL INFORMATION WITH LETTER  
 DATE SAMPLED 7/20/2010  
 BY R. GARCIA TITLE TECHNICIAN  
 DIST. CO, RTE, PM 01-MEN-001-PM 2.5  
SEND RESULTS BY/ON QUESTIONS  
KATY G @ 441-2024

LIMITS \_\_\_\_\_  
 CONT. NO. 01-49770  
 FED. NO. 675 0100020262  
 RES. ENGR. OR SUPT. \_\_\_\_\_  
 ADDRESS \_\_\_\_\_  
 CONTRACTOR \_\_\_\_\_

**MAIL TO SAME DESTINATION AS SAMPLE**

**Data Reporting Form - California Test 643**

Corrosion Test No. 60248 EA: 0100020262  
 Tested By: David Hayes + Dave Chiodinelli Date: 10-30-12

Total Water Added (milliliters)	Soil Sample Resistance (Ohms)	Minimum Soil Resistance, R <sub>min-T</sub> (Ohms)	Sample Temperature, T (°C)
15	1.7 x 10 <sup>6</sup>	R <sub>min-T</sub> = <u>7900</u>	T = <u>20.8</u>
10	2.9 x 10 <sup>6</sup>	Resistance of Water, R <sub>T</sub> = _____	
10	8.6 x 10 <sup>6</sup>	R <sub>T</sub> = _____ (Ohms)	
		Minimum Resistance of soil sample corrected to 15.5° C, R <sub>min-15.5</sub>	
		R <sub>min-15.5</sub> = $R_{min-T} \frac{(24.5+T)}{40}$ = <u>7900 (24.5 + 20.8)</u>	
		R <sub>min-15.5</sub> = <u>8947</u> (Ohms)	
		<b>Minimum Soil Resistivity, ρ<sub>min-15.5</sub></b>	
		ρ <sub>min-15.5</sub> = R <sub>min-15.5</sub> × (Soil Box Constant)*	
		ρ <sub>min-15.5</sub> = <u>8947</u> (Ohm-cm)	
		Resistance of water sample corrected to 15.5° C, R <sub>15.5</sub>	
		R <sub>15.5</sub> = $R_T \frac{(24.5+T)}{40}$	
		R <sub>15.5</sub> = _____ (Ohms)	
		<b>Resistivity of Water Sample, ρ<sub>15.5</sub></b>	
		ρ <sub>15.5</sub> = R <sub>15.5</sub> × (Soil Box Constant)*	
		ρ <sub>15.5</sub> = _____ (Ohm-cm)	
		pH Value	
		Soil pH = <u>6.59</u>	Water pH = _____

(TL-0101)

\*Where: Soil Box Constant for Small Box=1 cm and for Large Box=6.76 cm

# APPENDIX

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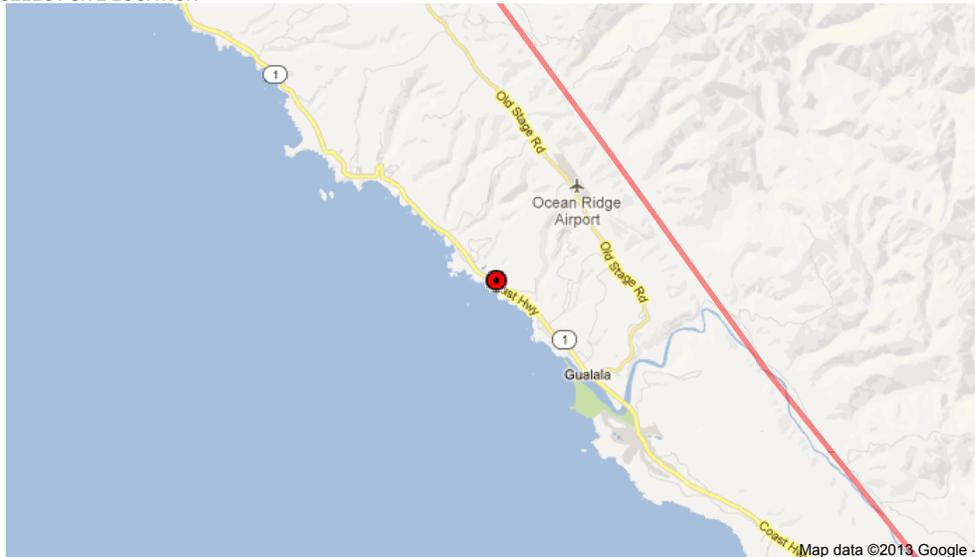
ARS Online Data Sheet

CALIFORNIA DEPARTMENT OF  
**TRANSPORTATION**

**Caltrans ARS Online (v2.1.06)**

This web-based tool calculates both deterministic and probabilistic acceleration response spectra for any location in California based on criteria provided in [Appendix B of Caltrans Seismic Design Criteria](#). [More...](#)

**SELECT SITE LOCATION**

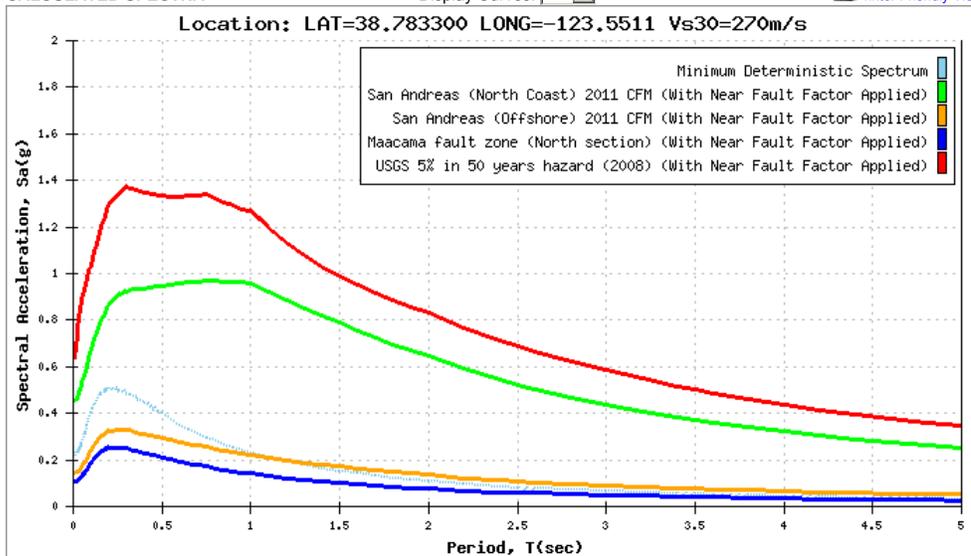


Latitude:  Longitude:  Vs30:  m/s

**CALCULATED SPECTRA**

Display Curves:

[Printer Friendly View](#)



**Apply Near Fault Adjustment To:**

NOTE: Caltrans SDC requires application of a Near Fault Adjustment factor for sites less than 25 km (Rrup) from the causative fault.

Deterministic Spectrum Using

Km San Andreas (North Coast) 2011 CFM

Km San Andreas (Offshore) 2011 CFM

Km Maacama fault zone (North section)

Probabilistic Spectrum Using

Km (Recommend Performing Deaggregation To Verify)

Show Spectrum with Adjustment Only

Show Spectrum with and without near fault Adjustment

