

# **INFORMATION HANDOUT**

**For Contract No. 01-0A3204  
At 01-Hum-299-30.2/30.6**

**Identified by  
Project ID 0100020307**

## **PERMITS**

United States Army Corps of Engineers  
Non-Reporting Nationwide 404

## **WATER QUALITY**

California Regional Water Quality Control Board, North Coast Region  
Board Order No. 1B15007WNHU

## **AGREEMENTS**

California Department of Fish and Wildlife  
Notification No. 1600-2014-0368-R1

## **MATERIALS INFORMATION**

Cutslope Recommendations, Dated 4/02/2015

## **PERMITS**

United States Army Corps of Engineers

Non-Reporting Nationwide 404



**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. 2015-00041N

Mr. Dana York  
California Department of Transportation District 1  
1656 Union Street  
Eureka, CA 95501  
ATTN: Coady Reynolds

Dear Mr. Reynolds:

This letter is in reference to your submittal received January 12, 2015, concerning Department of the Army (Corps) permit authorization to improve roadway conditions along Route 299 at postmiles 30.1-30.75, to address a pattern of vehicle collisions. The project proposes to provide 8-foot shoulders, realign the compound horizontal curve, and improve the superlevation rate/transitions within the project limits. The project location is: along Route 299 between 30.1 to 30.75, (Lat. 40.541816, Long. 123.452738) Humboldt County, California.

The project proposes removal of 2.6 acres of vegetation to create a new cut slope and align the highway. This would remove a component of foraging habitat for the northern spotted owl. The project would avoid a 350-square foot wetland seep identified in the project area. Also, in the project area is an ephemeral drainage that currently flows into a stormwater drainage inlet which flows directly to Willow Creek. The project would separate stormwater from jurisdictional waters using a bioswale. Additionally, blasting to remove rock would occur prior to excavation; however, this action is proposed to occur between August 1 and February 1, outside of the breeding season for the northern spotted owl.

Work within U.S. Army Corps of Engineers' (Corps) jurisdiction would include impacts to Section 404 waters that temporarily impact 95-feet of waters. Impacts would result from the above-mentioned improvements and installation of about 3.1 cubic yards of fill. All work shall be completed as indicated in the drawings entitled: "Drainage Plan," "Drainage Profile," and "Drainage Details," sheets 1-2, dated December 30, 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 #2015-00041, Cedar Gap Curve Project

Preliminary Jurisdictional Determination” in one sheet, dated January 15, 2015 (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.* Under the programmatic referenced below (April 9, 2014), FWS concurred with the determination that the project was not likely to adversely affect northern spotted owls 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 was notified on November 13, 2014, that this project would fit under the Programmatic Informal Consultation for the California Department of Transportation's Routine Maintenance and Repair Activities, and Small Projects Program for Districts 1 and 2 (AFWO-128000 1-1210001 USFWS-Arcata Field Office April 9, 2014). Coverage under the programmatic was premised, in part, on project minimization measures outlined on page 4 of the Pre-Construction Notification (PCN) dated January 12, 2015 (enclosure 6). The minimization measures from the programmatic and PCN 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,



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	HUM	299	30.2/30.6	No. 000123

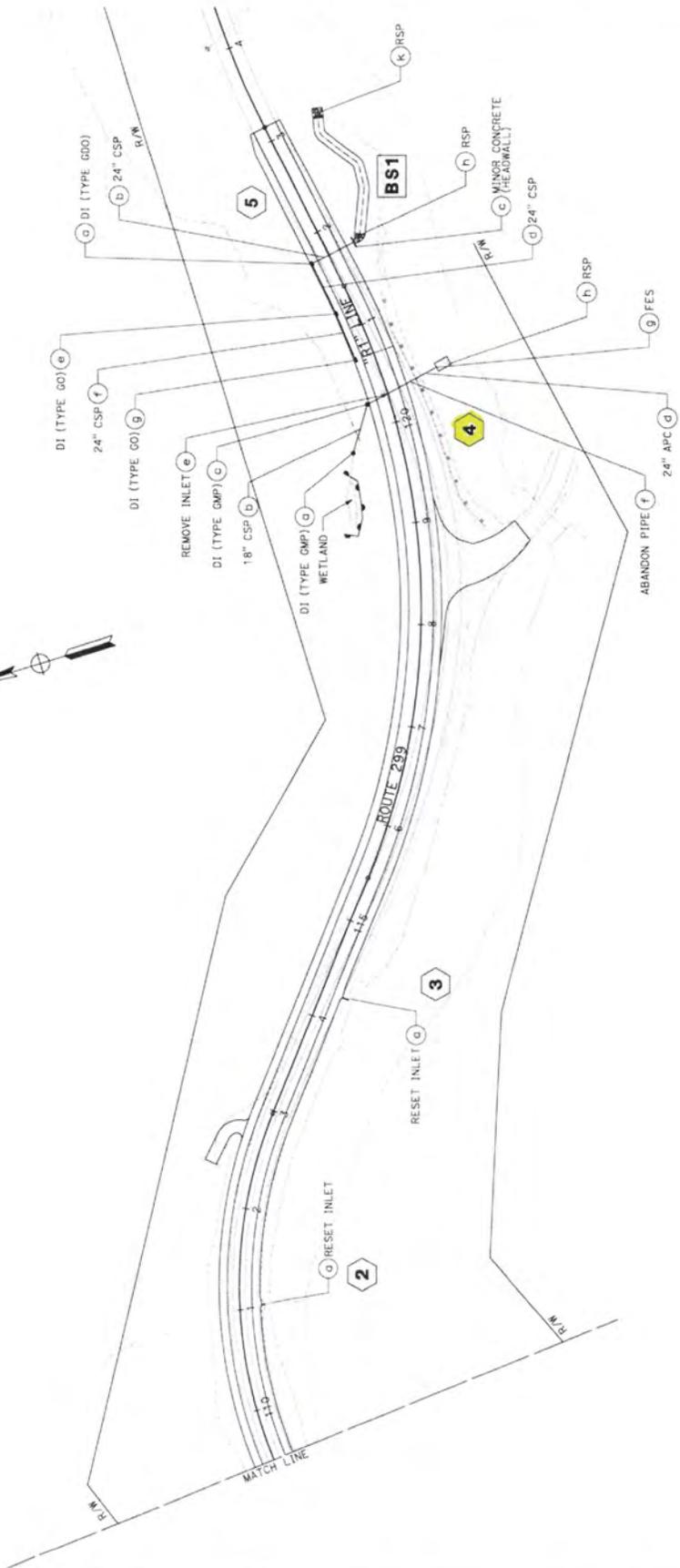
**PRELIMINARY**  
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA BY HIS OFFICER  
ROBERT J. NIXON  
No. 000123  
Exp. 04/15/19

NO OTHER WORK SHALL BE RESPONSIBLE FOR  
OR PART OF THIS PLAN SHEET.  
CONSENT OF THIS PLAN SHEET.

**NOTE:**  
1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT  
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



**DRAINAGE PLAN**  
SCALE: 1" = 50'

PROJECT NUMBER & PHASE 01000203071-1 UNIT 0315

RELATIVE BORDER SCALE 15 IN INCHES

BORDER LAST REVISED 7/2/2010

US:NAME #012798K  
DON FILE #01000203071a002.dgn

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	John L. Martin	FUNCTIONAL SUPERVISOR
DESIGNED BY	JOLENA ASTIN	ROBERT NIXON	CHECKED BY
REVISOR			DATE REVISED

LAST MODIFIED DATE PLOTTED => 29-JAN-2015  
17-30-14 TIME PLOTTED => 11:48  
EA: 01-043201



**NOTES:**

1. ALL RSP WILL BE BACKING NO. 2, METHOD B

DATE PLOTTED: 09-14-2018  
 TIME PLOTTED: 4:13:48  
 SHEET NO.: 01  
 TOTAL SHEETS: 30.2/30.6  
 COUNTY: HUMBoldt  
 ROUTE: 299  
 PROJECT: 01-0A3201

**PRELIMINARY**  
 REGISTERED CIVIL ENGINEER DATE: 08/23/18  
 PROFESSIONAL ENGINEER NO.: 089123  
 CIVIL ENGINEER: ROBERT NIXON

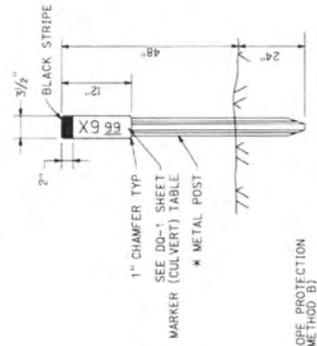
PLANS APPROVAL DATE: \_\_\_\_\_  
 REGISTERED CIVIL ENGINEER DATE: \_\_\_\_\_  
 PROFESSIONAL ENGINEER NO.: \_\_\_\_\_  
 CIVIL ENGINEER: \_\_\_\_\_

IN STATE OF CALIFORNIA BY 105-071075  
 FOR ACCOUNT OF COMPLETION OF PLANS  
 DATED BY THIS PLAN SHEET.

**ROCK SLOPE PROTECTION LOCATION AND VARIABLES**

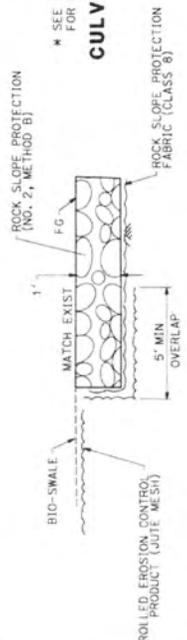
DRAINAGE SYSTEM No.	CP STATION & OFF-SET	VARIABLE			NOTES
		"A" FT	"B" FT	"Z" FT	
4 (h)	R1" 120+36.26, 42.10 RT	2.0	12	6.0	FG ELEV TO CONFORM WITH EXIST
5 (l)	R1" 121+30.00, 54.42 RT	0	10	10	MATCH BID-SWALE CONFORM WITH EXIST
5 (d)	R1" 121+75.00, 27.87 RT	*	*	*	MATCH BID-SWALE CONFORM WITH EXIST

\* SEE DRAINAGE SYSTEM NO. 5 DETAIL ON THIS SHEET



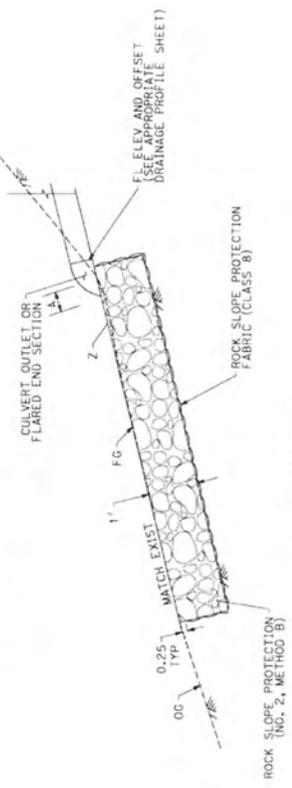
**CULVERT MARKER**

\* SEE STANDARD PLAN A730 FOR METAL POST DETAILS

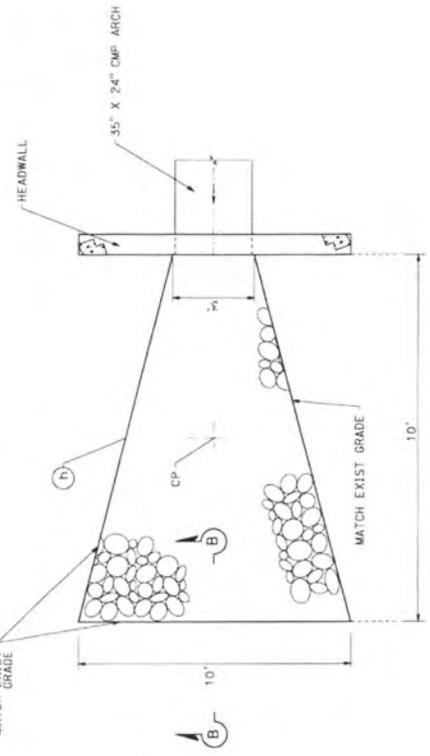


**SECTION B-B**

(5)(6)(1)



**SECTION A-A**



**DRAINAGE SYSTEM NO. (5)**

R1" 121+30.00, 20.0' LT TO  
 R1" 121+70.00, 42.7' RT

**ROCK SLOPE PROTECTION**

**DRAINAGE DETAILS**  
 NO SCALE **DD-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 DESIGN  
 FUNCTIONAL SUPERVISOR: JOHN L. MARTIN  
 CHECKED BY: ROBERT NIXON  
 DATE REVISED: \_\_\_\_\_  
 DESIGNED BY: JOLENA ASTIN  
 DATE REVISED: \_\_\_\_\_

USPS MAIL PERMIT NO. 13848  
 SAN FRANCISCO, CA 94111  
 MAIL STOP 997000

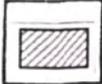
PROJECT NUMBER & PHASE: 01000203071-1  
 UNIT: 0315  
 RELATIVE BORDER SCALE: 1/8" = 1'-0"

BORDER LAST REVISED: 7/27/2010  
 EA: 01-0A3201

**US Army Corps of Engineers**  
 San Francisco District  
 Regulatory Branch

Preliminary Jurisdictional Determination (PJD)  
 Pursuant to Section 404 of the CWA  
 For USACE File #2015-00041, Cedar Gap Curve  
 Project PJD on SR 299 at PM 30.1/30.75, Humboldt  
 County, CA (Lat. 40.541816, Long. 123.452738).

**FILE NO:** #2015-00041      **DATE:** January 19, 2015

-  Other Waters
-  Wetlands
-  Project Boundary
-  (Empty)

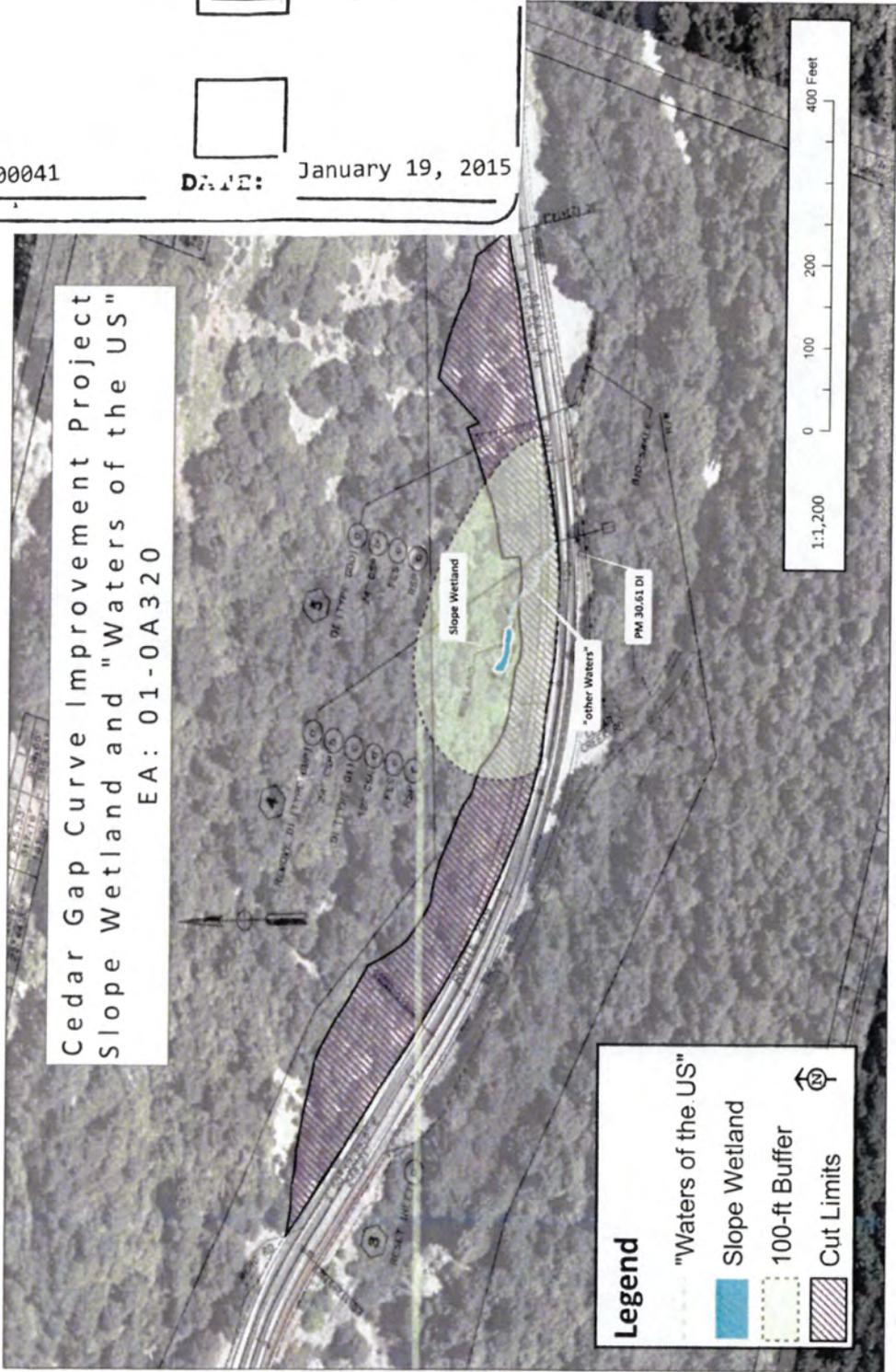


Figure 5: Wetlands and "Waters" Mapping

#### **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 NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

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

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

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

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

**23. Mitigation.** The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal: (a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site). (b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal. (c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require 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 NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs. (f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the restoration or establishment, maintenance,

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act. (c) *Form of Pre-Construction Notification*: 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 NWPs 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 Magnusson-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:**

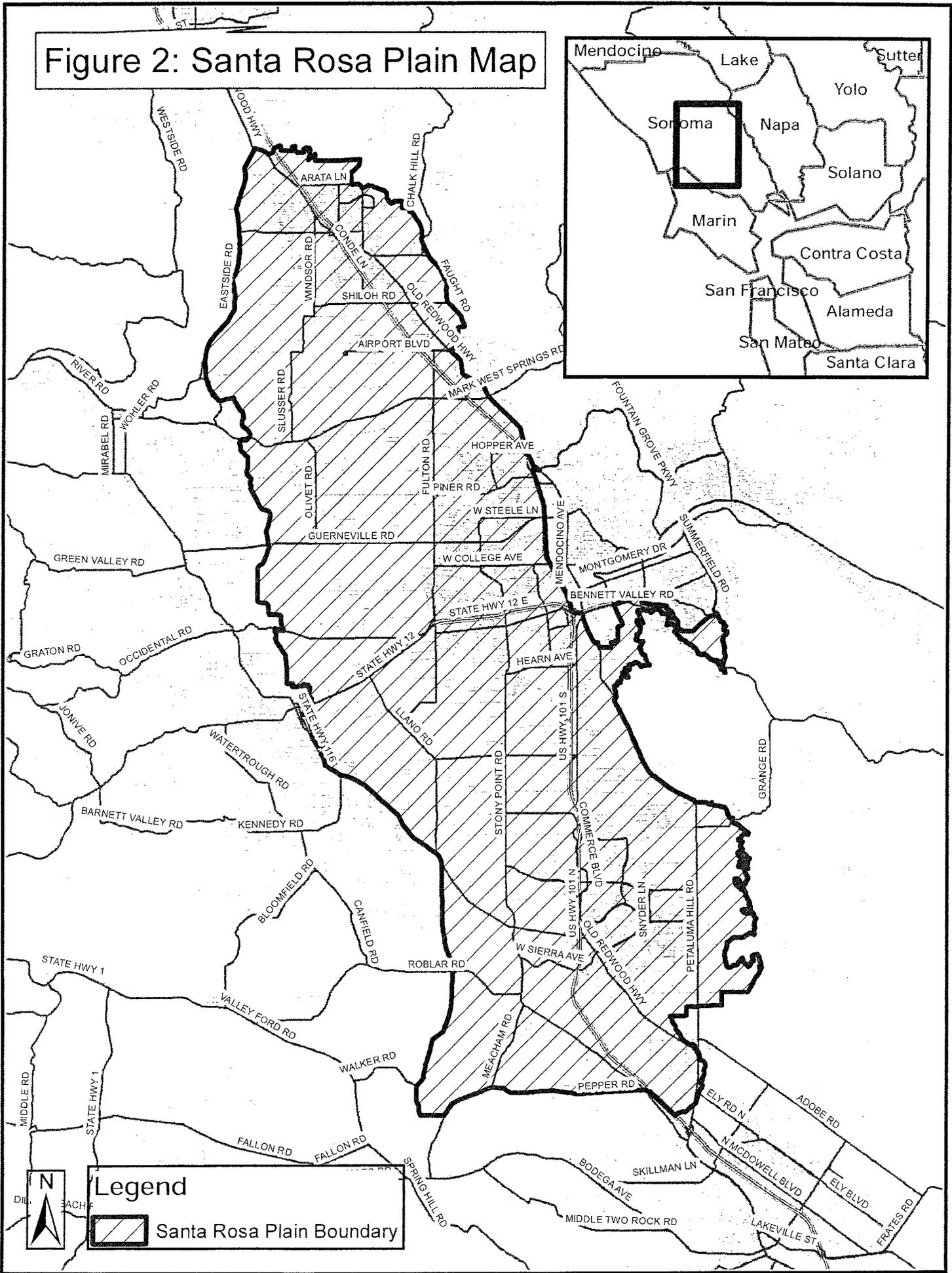
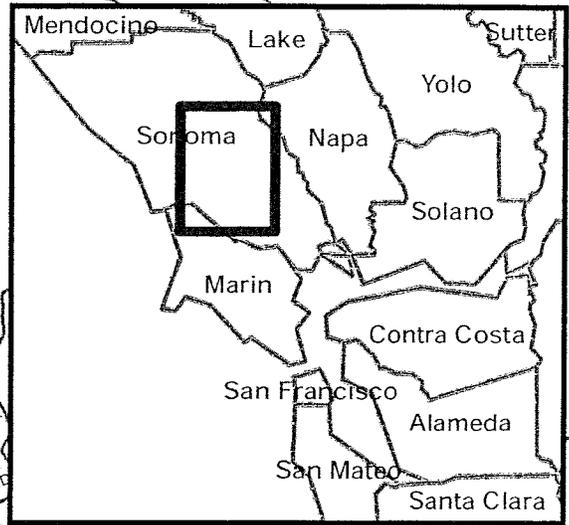
1. Compensatory mitigation may be required if the Corps determines there will be a detrimental impact to aquatic habitat.
2. Notification to the Corps (in accordance with General Condition 31) is required if the applicant proposes to re-grade, discharge, install channel lining, or redeposit fill material.
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.



Figure 2: Santa Rosa Plain Map



**Legend**

 Santa Rosa Plain Boundary

Enclosure 5

Permittee: California Department of Transportation, District 1

File Number: 2015-00041N

**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

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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

**Drawings and figures** (see each U.S. Army Corps of Engineers District's Minimum Standards Guidance):

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

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

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

Numbered and dated pre-project color photographs:  Attached (or mail copy separately if applying electronically)

Sketch drawing(s) or map(s):  Attached (or mail copy separately if applying electronically)

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

Yes, Attached<sup>2</sup> (or mail copy separately if applying electronically)  No

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

Yes, Date of preliminary or approved jurisdictional determination (mm/dd/yyyy):

Corps file number:

No

<sup>2</sup>If available, provide ESRI shapefiles (NAD83) for delineated waters

For proposed discharges of dredged material resulting from navigation dredging into inland or near-shore waters of the U.S. (including beach nourishment), please attach<sup>3</sup> a proposed Sampling and Analysis Plan (SAP) prepared according to Inland Testing Manual (ITM) guidelines (including Tier I information, if available), or if disposed offshore, a proposed SAP prepared according to the Ocean Disposal Manual.

<sup>3</sup>Or mail copy separately if applying electronically

Is any portion of the work already complete?  YES  NO

If yes, describe the work:

**Box 7 Authority:**

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

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

Is the project located on U.S. Army Corps of Engineers property or easement?:  YES  NO

If yes, has Section 408 process been initiated?:  YES  NO

Would the project affect a U.S. Army Corps of Engineers structure?:  YES  NO

If yes, has Section 408 process been initiated?:  YES  NO

Is the project located on other Federal Lands (USFS, BLM, etc.)?:  YES  NO

Is the project located on Tribal Lands?:  YES  NO

**Box 8** Is the discharge of fill or dredged material for which Section 10/404 authorization is sought part of a larger plan of development?:  YES  NO

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

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):

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

All work will occur in the dry season. Work areas will be as minimal as possible.

## **WATER QUALITY**

California Regional Water Quality Control Board, North Coast Region

Board Order No. 1B15007WNHU

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North Coast Regional Water Quality Control Board

April 3, 2015

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**In the Matter of  
Water Quality Certification**

**for the**

**California Department of Transportation  
State Route 299 Cedar Gap Curve Improvement Project  
WDID No. 1B15007WNHU, ECM PIN CW-812893  
Caltrans EA No. 01-0A320**

APPLICANT: California Department of Transportation  
RECEIVING WATERS: Willow Creek  
HYDROLOGIC AREA: Hydrologic Planning Sub-Area 106.12, Willow Creek  
COUNTY: Humboldt  
FILE NAME: CDOT Cedar Gap Curve Improvement Project  
Highway 299 PM 30.2

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FINDINGS BY THE EXECUTIVE OFFICER:

1. On February 6, 2015, 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 (CWA) section 401, Water Quality Certification (certification) for activities related to the State Route 299 Cedar Gap Curve Improvement Project (Project).
2. **Hydrologic Unit:** The proposed Project would cause impacts to jurisdictional waters that are tributaries of Willow Creek (Basin Plan Hydrologic Planning Sub-Area 106.12, Willow Creek).

3. **Public Notice:** The Regional Water Board provided public notice of the application pursuant to title 23, California Code of Regulations, section 3858 on March 5, 2015, and posted information describing the Project on the Regional Water Board's website. No comments were received.
4. **Project Description:** The Project location is in Humboldt County between post-miles 30.0 and 30.8 on State Route 299. The purpose of the Project is to reduce the number and severity of vehicular collisions by improving curve radii, adding 8-foot shoulders, installing sinusoidal (rumble) strips, installing an open-graded asphalt roadway surface, and improving superelevation transitions.

Because Willow Creek runs alongside the eastbound lane, Caltrans must cut into the existing hillside along the westbound lane. Caltrans estimates that approximately 30,000 cubic yards of rock material will need to be hauled off-site. Project implementation would require 2.6 acres of trees be cleared and grubbed.

5. **Construction Timing:** The Project is expected to be completed over two construction seasons in 2015 and 2016. The first construction season would last approximately 45 days and include removal of trees, earth moving, and controlled blasting, as needed. Activities during the second construction season would include excavation and construction of the new roadway, drainage modifications, landscaping, and placement of a biofiltration swale to treat storm water runoff from the roadway.
6. **Permanent Impacts:** A narrow, ephemeral channel connecting a hillslope wetland and roadside drainage inlet would be impacted by hillslope excavation. As such, Caltrans has determined that the proposed Project would result in approximately 37 linear feet (0.0009 acres) of permanent impacts to jurisdictional waters.
7. **Temporary Impacts:** Caltrans has determined that the proposed Project would not result in temporary impacts to jurisdictional waters.
8. **Mitigation for Project Impacts:** Mitigation is not required for the de minimis impacts to the ephemeral drainage. However, Caltrans shall construct an approximately 31 linear foot rock-lined channel on the new fill slope that will maintain the surface water recharge qualities of the impacted drainage.
9. **Post-Construction Stormwater Treatment:** Project implementation would result in approximately 0.60 acres of new and 0.2 acres of reworked impervious surface area. To control roadway pollutants, post-construction, Caltrans shall install a biofiltration swale with eighteen inches of engineered soil media to treat no less than 0.68 acres of impervious area.

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 (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. All disturbed areas within the Project shall be appropriately stabilized and/or replanted with appropriate native vegetation.
11. **Utility Relocations:** Utility relocations affecting jurisdictional waters are not proposed for this Project.
12. **Other Agency Actions:** Caltrans has applied for coverage under U.S. Army Corps of Engineers Nationwide Permit No. 14, pursuant to CWA, section 404. Caltrans has also submitted a section 1600 Notification of Lake or Streambed Alteration to the California Department of Fish and Wildlife.
13. **CEQA Compliance:** The Regional Water Board, as lead California Environmental Quality Act (CEQA) agency, has determined that the project qualifies for a Categorical Exemption 15301: Existing Facilities, and will file a Notice of Exemption with the State Clearinghouse concurrent with issuance of the 401 Water Quality Certification, pursuant to CEQA guidelines.
14. **Total Maximum Daily Load:** The Willow Creek watershed is within the Lower Trinity River hydrologic area. The Lower Trinity River watershed is included on the Clean Water Act section 303(d) list as impaired for sediment and temperature. The TMDL identifies Caltrans facilities as a contributor to sediment in the watershed and recommends implementation of erosion control measures set forth in the Caltrans statewide National Pollutant and Discharge Elimination System storm water permit and implementation of routine maintenance measures to minimize sediment delivery. Caltrans would be required to obtain coverage under the statewide construction general permit to control sediment delivery during construction. The Project certification would include a requirement to install a biofiltration swale to capture roadway pollutants after construction is completed.
15. **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.

16. 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. A weblink to this Order is included at the end of this certification.

Receiving Water:	Willow Creek, Basin Plan Hydrologic Planning Sub-Area 106.12, Willow Creek	
Filled and/or Excavated Areas:	Permanent – jurisdictional waters	37 linear feet (0.0009 acres)
	Temporary – jurisdictional waters	none
Dredge Volume:	none	
Latitude/Longitude:	40.9073061, -123.7541531	

Accordingly, based on its independent review of the record, the Regional Water Board certifies that the State Route 299 Cedar Gap Curve Improvement Project (WDID No. 1B15007WNHU), 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 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.**

**Project-Specific Conditions Requiring Reports**

1. The Regional Water Board shall be notified in writing (e-mail is acceptable) at least five working days prior to commencement of ground disturbing activities for each construction season.

**Project-Specific Conditions**

2. Caltrans shall install a biofiltration swale to treat roadway runoff from no less than 0.68 acres of impervious area. The swale shall be built consistent with the design plans and soil specifications in Attachment A of this certification (Biofiltration Swale Plans and Soil Specifications). Caltrans shall utilize plants that are appropriate for the soil mix and climate.

**Standard Conditions (continued)**

3. 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.
4. 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. If the Regional Water Board is not notified of an alteration to the Project that results in an impact to water quality, it will be considered a violation of this Order, and Caltrans may be subject to Regional Water Board enforcement actions.
5. 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.
6. 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.
7. 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.
8. Caltrans is liable and responsible for the proper disposal, reuse, and/or recycling of all Project-generated waste in compliance with applicable State and Federal laws and regulations, and as described in Caltrans 2010 Standard Specifications 13-4.03D, Waste Management. Additionally, when handling, transporting, disposing, reusing, and/or recycling Project-generated waste, Caltrans and their contractors shall:
  - i) Provide the Regional Water Board with a copy of the Solid Waste Disposal and Recycling Report prepared for Caltrans by the contractor per Caltrans 2010 Standard Specification 14-10.02A(1), Submittals. These reports shall be provided not later than January 31 for each year work is performed during the previous calendar year. A copy of the final Solid Waste Disposal and Recycling Report shall be submitted to the Regional Water Board within

**Standard Conditions (continued)**

30 days after being received by Caltrans from the contractor.

- ii) For waste other than solid waste, obtain evidence that waste has been appropriately disposed, reused, and/or recycled. Evidence shall include type and quantity of waste and may include, but not be limited to, property owner agreements, permits, licenses, and environmental clearances. Evidence shall be provided to the Regional Water Board upon request; and
  - iii) For waste other than solid waste, ensure the Resident Engineer has given written permission for disposal, reuse, and/or recycling, prior to the actual disposal, reuse, and/or recycling.
9. 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.
10. Caltrans and their contractors shall comply with the activity restrictions detailed in Caltrans 2010 Standard Specifications 13-4.03C(1). In addition, fueling, 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.
11. Fueling, maintenance, and/or staging of individual equipment types within waters of the State or riparian areas may be authorized if Caltrans first prepares a plan for review and approval by Regional Water Board staff that:
- i) Identifies the specific piece of machinery that may require fueling, maintenance, and/or staging within waters of the State or riparian areas;
  - ii) Provides justification for the need to refuel, maintain, or stage within State waters or riparian areas. The justification shall describe why conducting the activity outside of jurisdictional waters is infeasible; and
  - iii) Includes a narrative of specific BMPs that shall be employed to prevent discharges to State waters and riparian areas;
12. Caltrans shall not use leaking vehicles or equipment within State waters or riparian areas.
13. Only 100-percent biodegradable erosion and sediment control products that will not entrap or harm wildlife shall be used. Photodegradable synthetic products are not considered biodegradable. 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. This condition does not

**Standard Conditions (continued)**

prohibit the use of plastic sheeting used in water diversion or dewatering activities. Caltrans shall request approval from the Regional Water Board if an exception to this requirement is needed for a specific location.

14. Work in flowing or standing surface waters, unless otherwise proposed in the project description and approved by the Regional Water Board, is prohibited.
15. Non-stormwater discharges are prohibited unless the discharge is first approved by the Regional Water Board and in compliance with the Basin Plan. If dewatering of groundwater is necessary, then Caltrans shall use a method of water disposal other than disposal to ground or 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.
16. Gravel bags used within State waters shall:
  - i) Comply with Caltrans 2010 Standard Specifications sections 13-5.02G and 88-1.02F;
  - ii) Be immediately removed and replaced if the bags have developed or are developing holes or tears; and
  - iii) Be filled only with clean washed gravel.

Exceptions to these criteria are subject to the review and acceptance of Regional Water Board staff;

17. This Order does not authorize drafting of surface waters.
18. Caltrans shall provide access to the Project construction site upon request by Regional Water Board staff.
19. Initial water pollution control training described in Caltrans 2010 Standard Specifications 13-1.01D(2), Training, shall apply to all Caltrans employees, contractors, and sub-contractors. Initial water pollution control training topics shall include Regional Water Board 401 certification and construction general permit requirements, identification of state waters and riparian areas, and violation avoidance and discharge reporting procedures.
20. Caltrans shall maintain logs of all Caltrans staff, contractors, and sub-contractors trained pursuant to the Caltrans 2010 Standard Specifications 13-1.01D(2). The logs

### **Standard Conditions (continued)**

shall include the names of trainees, training dates, and summary of the scope of training. Caltrans shall provide evidence of this documentation upon the request of the Regional Water Board.

21. 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 no more than 24 hours after the discharge occurs.
22. Uncured concrete shall not be exposed to State waters or surface waters that may discharge to State waters. Concrete sealants may be applied to the concrete surface where difficulty in excluding flow for a long period may occur. If concrete sealant is used, water shall be excluded from the site until the sealant is cured. If groundwater comes into contact with fresh concrete, it shall be prevented from flowing towards surface water.
23. Ground and surface water that has come into contact with fresh concrete, and all other wastewater, shall not be discharged to State waters or to a location where it may discharge to State waters; the wastewater shall be collected and re-used or disposed of in a manner approved by the Regional Water Board.
24. All 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.
25. 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.
26. The validity of this certification is conditioned upon total payment of any fee required under title 23, California Code of Regulations, section 3833. The total Application fee is \$200. The Regional Water Board received \$200 from Caltrans on February 10, 2015.
27. This certification will be subject to annual billing during the construction phase ("Annual Active Discharge Fee") and during the monitoring phase of the Project ("Annual Post Discharge Monitoring Fee"), per the current fee schedule, which can be

### **Standard Conditions (continued)**

found on our website:

[http://www.swrcb.ca.gov/northcoast/water\\_issues/programs/water\\_quality\\_certification.shtml](http://www.swrcb.ca.gov/northcoast/water_issues/programs/water_quality_certification.shtml). These fees will be automatically invoiced to Caltrans.

28. Caltrans shall notify the Regional Water Board upon Project construction completion to request termination of the Annual Active Discharge Fee and to receive a "Notice of Completion of Discharges Letter." If the Project is subject to the Annual Post Discharge Monitoring Fee, then Caltrans shall also notify the Regional Water Board at the end of the monitoring period to request termination of the fee and receive a "Notice of Project Complete Letter." Caltrans may be required to submit completion reports at the end of each of these phases. Regional Water Board staff may request site visits at the end of each Project phase to confirm Project status and compliance with this Order.
29. 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.
30. 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.
31. 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.
32. This certification is not transferable. In the event of any change in control of

### **Standard Conditions (continued)**

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) The 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.

33. Except as may be modified by any preceding conditions, all certification actions are contingent on:

- i) 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;
- ii) Caltrans shall construct the project in accordance with the project described in the application and the findings above; and
- iii) 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.

Any change in the design or implementation of the project that would have a significant or material effect on the findings, conclusions, or conditions of this Order must be submitted to the Executive Officer of the Regional Water Board for prior review, consideration, and written concurrence. If the Regional Water Board is not notified of a significant alteration to the project, it will be considered a violation of this Order, and Caltrans may be subject to Regional Water Board enforcement actions.

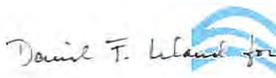
34. The authorization of this certification for any dredge and fill activities expires five years from the date of this Order. Conditions and monitoring requirements outlined in this Order are not subject to the expiration date outlined above, and remain in full effect and are enforceable.

**Condition 1 is a reporting requirement.** Any requirement for a report made as a condition to this certification is a formal requirement pursuant to California Water Code

section 13267, and failure or refusal to provide, or falsification of such required report is subject to civil liability as described in California Water Code, Section 13268.

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 Scientist, 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.

  
Digitally signed by David F. Leland  
Date: 2015.04.03 12:06:43  


---

Matthias St. John  
Executive Officer

150403\_BJT\_dp\_CDOT\_HUM299\_CedarGap\_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: Ms. Kim Floyd, Caltrans, District 1, 1656 Union Street, Eureka, CA 95501  
[kim.floyd@dot.ca.gov](mailto:kim.floyd@dot.ca.gov)

cc: Holly Costa, U.S. Army Corps of Engineers [holly.n.costa@usace.army.mil](mailto:holly.n.costa@usace.army.mil)  
JoAnn Dunn, California Department of Fish and Wildlife [JoAnn.Dunn@wildlife.ca.gov](mailto:JoAnn.Dunn@wildlife.ca.gov)  
State Water Resources Control Board [stateboard401@waterboards.ca.gov](mailto:stateboard401@waterboards.ca.gov)  
Environmental Protection Agency, Region 9 [R9-WTR8-Mailbox@epa.gov](mailto:R9-WTR8-Mailbox@epa.gov)  
Coady Reynolds, Caltrans [Coady.Reynolds@dot.ca.gov](mailto:Coady.Reynolds@dot.ca.gov)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	299	30.2/30.6		

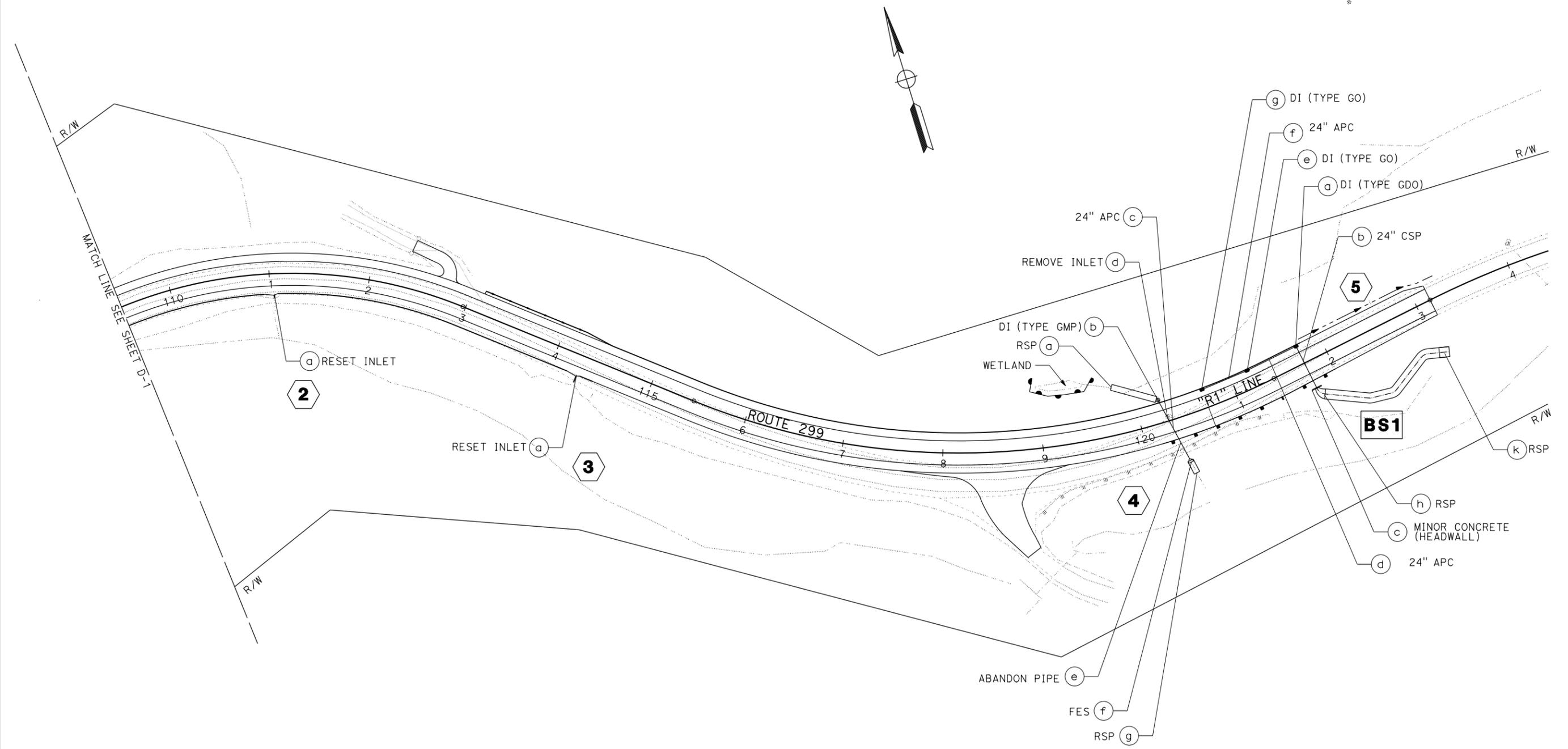
  

<b>95% REVIEW</b>	
REGISTERED CIVIL ENGINEER	DATE
PLANS APPROVAL DATE	

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTE:**  
 1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
**DESIGN**  
 FUNCTIONAL SUPERVISOR: JOHN L. MARTIN  
 CHECKED BY: ROBERT NIXON  
 DESIGNED BY: JOLENA ASTIN  
 REVISIONS: REVISED BY: DATE REVISED:



**DRAINAGE PLAN**  
 SCALE: 1" = 50'  
**D-2**

APPROVED FOR DRAINAGE WORK ONLY

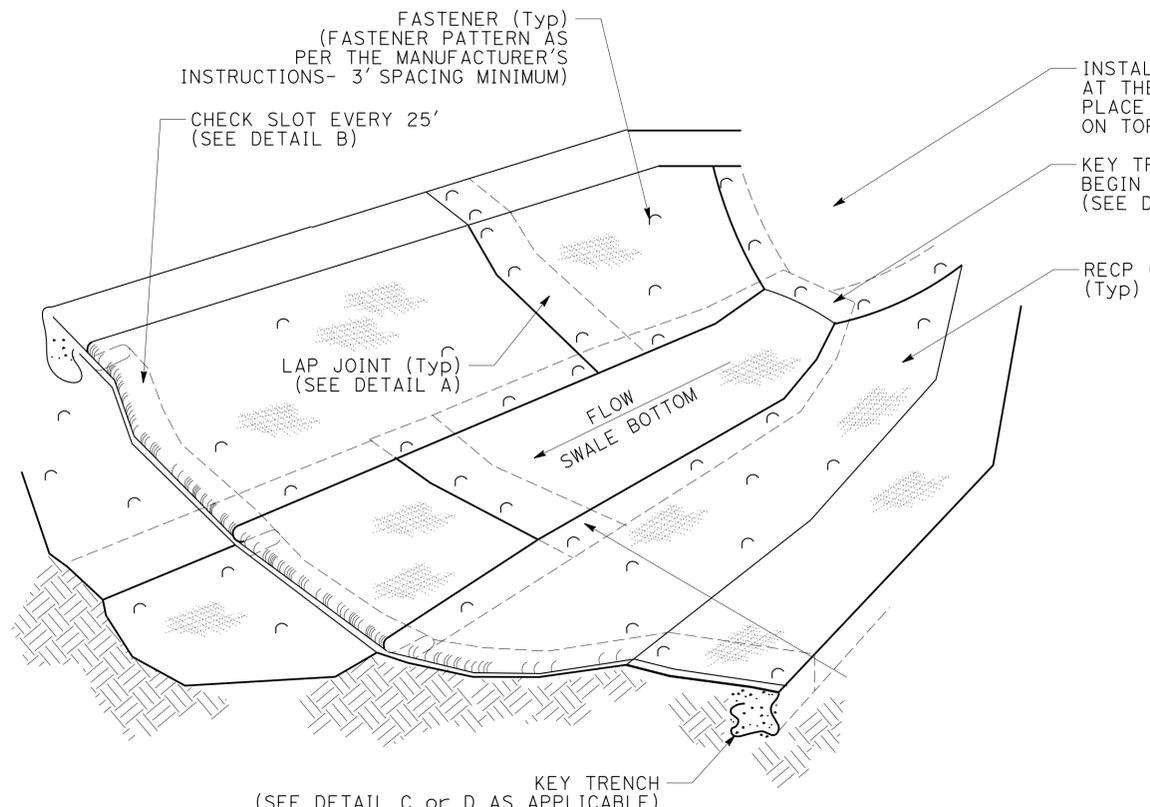
LAST REVISION: 12-30-14    DATE PLOTTED => 13-FEB-2015    TIME PLOTTED => 10:53

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	299	30.2/30.6	39	57

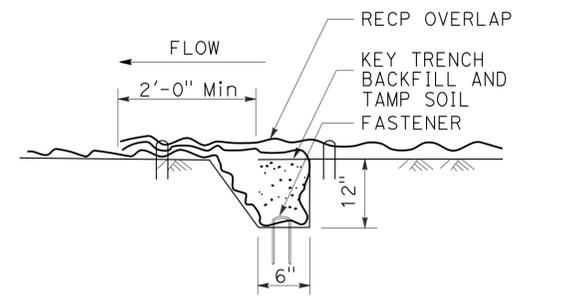
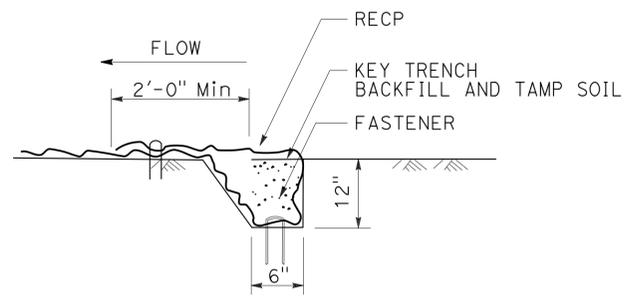
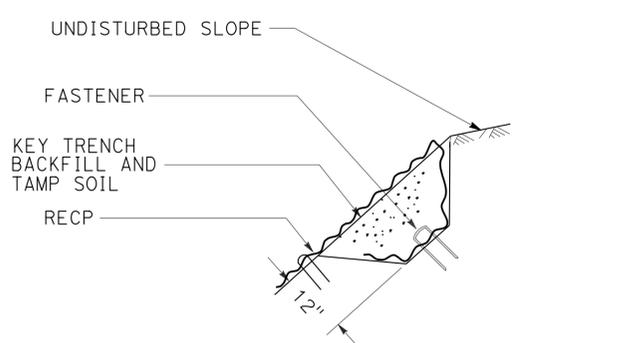
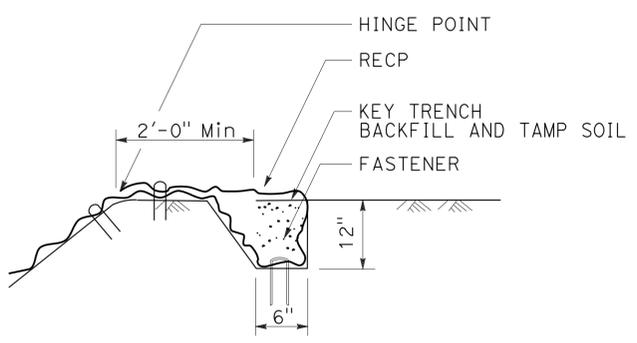
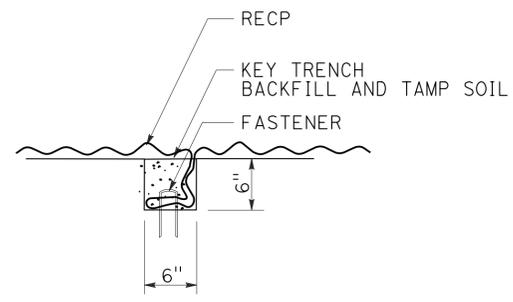
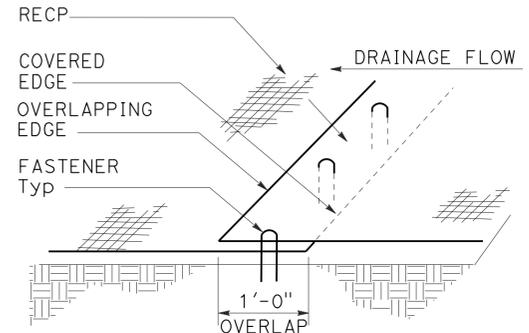
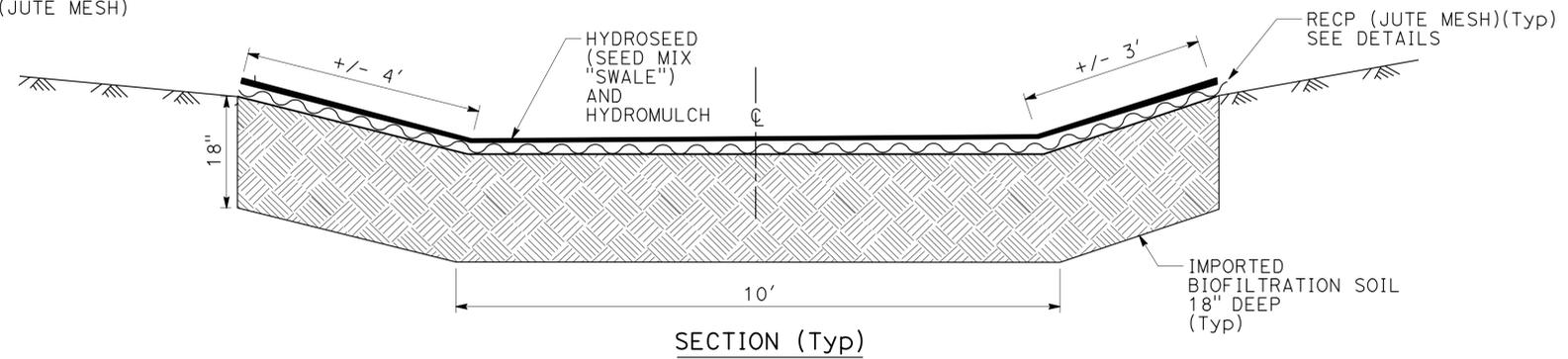
**DRAFT CONTRACT REVIEW**  
 LICENSED LANDSCAPE ARCHITECT

XX-XX-15  
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



ISOMETRIC



**BIOFILTRATION SWALE**

**EROSION CONTROL DETAILS**

NO SCALE

**ECD-2**

P:\proj\1\01\_00320\plans\pse\0100020307+f002.dgn

DESIGNED BY	ROBIN SOLARI
CHECKED BY	RON FLORY
SENIOR LANDSCAPE ARCHITECT	RON FLORY
LANDSCAPE ARCHITECTURE	
DEPARTMENT OF TRANSPORTATION	
STATE OF CALIFORNIA	

USERNAME => s115152  
 DGN FILE => 0100020307+f002.dgn



UNIT 0382

PROJECT NUMBER & PHASE 01-0002-0307-1 EA: 01-0A3201

BORDER LAST REVISED 7/2/2010

LAST REVISION: DATE PLOTTED => 25-MAR-2015  
 TIME PLOTTED => 10:43



## 10-1. \_\_ IMPORTED BIOFILTRATION SOIL

### GENERAL

#### Summary

This work includes furnishing and placing imported biofiltration soil.

#### Submittals

Compost: Before mixing compost with sand and topsoil, submit:

1. A Certificate of Compliance from the compost supplier in conformance with the provisions in Section 6-1.07, "Certificates of Compliance," of the Standard Specifications.
2. A copy of the compost producer's compost technical data sheet. The compost technical data sheet must include:
  - 2.1. Laboratory analytical test results
  - 2.2. List of product ingredients
3. A copy of the compost producers Seal of Testing Assurance certification.

Imported biofiltration soil: Imported biofiltration soil must be accompanied by a Certificate of Compliance, from the soil supplier, in conformance with the provisions in Section 6-1.07, "Certificates of Compliance," of the Standard Specifications.

#### Quality Control and Assurance

Saturated hydraulic conductivity for imported biofiltration soil must be at least 5 inches per hour.

### MATERIAL

Imported biofiltration soil must be a uniform mixture of sand, compost, and topsoil. Volumetric proportion of the mixture must be: four-parts sand; two-parts compost; one-part topsoil.

#### Sand

Sand must be free of wood, waste, coating such as clay, stone dust, carbonate, or any other deleterious material. All aggregate passing No. 200 sieve size must be non-plastic. Sand must be graded within the following limits:

Sieve Size	Percentage Passing
3/8"	100
No. 4	90 - 100
No. 8	70 - 100
No. 16	40 - 95
No. 30	15 - 70
No. 40	5 - 55
No. 100	0 - 15
No. 200	0 - 5

Grain size analysis results of the sand component must be performed in accordance with ASTM D 422, Standard Test Method for Particle Size Analysis of Soils.

## **Compost**

The compost producer must be fully permitted as specified under the California Integrated Waste Management Board, Local Enforcement Agencies, and any other State and Local Agencies that regulate solid waste facilities. If exempt from State permitting requirements, the composting facility must certify that it follows guidelines and procedures for production of compost meeting the environmental health standards of Title 14, California Code of Regulations, Division 7, Chapter 3.1, Article 7.

The compost producer must be a participant in the United States Composting Council's Seal of Testing Assurance program.

Compost may be derived from any single or mixture of any of the following feedstock materials:

1. Green material consisting of chipped, shredded, or ground vegetation; or clean processed recycled wood products
2. Biosolids
3. Manure
4. Mixed food waste

Compost feedstock materials in a manner that reduces presence of weed seeds, pathogens and deleterious materials as specified under Title 14, California Code of Regulations, Division 7, Chapter 3.1, Article 7, Section 17868.3.

Compost must not be derived from mixed municipal solid waste and must be reasonably free of visible contaminants. Compost must not contain paint, petroleum products, pesticides or any other chemical residues harmful to animal life or plant growth. Compost must not possess objectionable odors.

Metal concentrations in compost must not exceed the maximum metal concentrations listed in Title 14, California Code of Regulations, Division 7, Chapter 3.1, Section 17868.2.

Compost must comply with the following:

## Physical and Chemical Requirements

Property	Test Method	Requirement										
pH	TMECC 04.11-A Elastometric pH 1:5 Slurry Method pH Units	6.5 - 8.0										
Soluble Salts	TMECC 04.10-A Electrical Conductivity 1:5 Slurry Method dS/m (mmhos/cm)	0 - 6.0										
Moisture Content	TMECC 03.09-A Total Solids & Moisture at 70 +/- 5 deg C % Wet Weight Basis	30 - 60										
Organic Matter Content	TMECC 05.07-A Loss-On-Ignition Organic Matter Method (LOI) % Dry Weight Basis	35 - 75										
Maturity	TMECC 05.05-A Germination and Vigor Seed Emergence Seedling Vigor % Relative to Positive Control	80 or Above 80 or Above										
Stability	TMECC 05.08-B Carbon Dioxide Evolution Rate mg CO <sub>2</sub> -C/g OM per day	8 or below										
Particle Size	TMECC 02.02-B Sample Sieving for Aggregate Size Classification % Dry Weight Basis	<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: right;">Inches</td> <td style="text-align: left;">% Passing</td> </tr> <tr> <td style="text-align: right;">3</td> <td style="text-align: left;">100%</td> </tr> <tr> <td style="text-align: right;">1/2</td> <td style="text-align: left;">0 - 95%</td> </tr> <tr> <td style="text-align: right;">1/4</td> <td style="text-align: left;">0 - 75%</td> </tr> <tr> <td colspan="2" style="text-align: center;">Max. Length 4 inches</td> </tr> </table>	Inches	% Passing	3	100%	1/2	0 - 95%	1/4	0 - 75%	Max. Length 4 inches	
Inches	% Passing											
3	100%											
1/2	0 - 95%											
1/4	0 - 75%											
Max. Length 4 inches												
Pathogen	TMECC 07.01-B Fecal Coliform Bacteria < 1000 MPN/gram dry wt.	Pass										
Pathogen	TMECC 07.01-B Salmonella < 3 MPN/4 grams dry wt.	Pass										
Physical Contaminants	TMECC 02.02-C Man Made Inert Removal and Classification: Plastic, Glass and Metal % > 4 mm fraction	Combined Total: < 1.0										
Physical Contaminants	TMECC 02.02-C Man Made Inert Removal and Classification: Sharps (Sewing needles, straight pins and hypodermic needles) % > 4 mm fraction	None Detected										

NOTE: TMECC refers to "Test Methods for the Examination of Composting and Compost," published by the United States Department of Agriculture and the United States Compost Council (USCC).

### Topsoil

Topsoil must be free of wood, waste or other deleterious material. The topsoil texture must be loamy. Overall dry weight percentages must be 60 to 90 percent sand, with less than 20 percent passing the No. 200 sieve, less than 5 percent clay, and no gravel.

### CONSTRUCTION

Comply with Section 20-3.02, "Preparation," of the Standard Specifications.

Place imported biofiltration soil in 8 to 12- inch lifts. Do not compact the lifts.

## **MEASUREMENT AND PAYMENT**

Quantity of imported biofiltration soil is measured by the cubic yard.

The contract unit price paid per cubic yard for imported biofiltration soil includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in imported biofiltration soil, complete in place, including testing, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

## **AGREEMENTS**

California Department of Fish and Wildlife

Notification No. 1600-2014-0368-R1

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE  
REGION 1 - NORTHERN  
619 SECOND STREET  
EUREKA, CALIFORNIA, 95501

RECEIVED

MAR 03 2015



**STREAMBED ALTERATION AGREEMENT**  
NOTIFICATION No. 1600-2014-0368-R1  
Unnamed Tributaries to Willow Creek  
**STREAM ENCROACHMENTS ON SR 299 PMs 30.0 TO 30.8**

CDFW - EUREKA

CALIFORNIA DEPARTMENT OF TRANSPORTATION,  
AS REPRESENTED BY Ms. KIM FLOYD  
CEDAR CREEK CURVE IMPROVEMENT ON SR 299, HUMBOLDT COUNTY

This Lake or Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Wildlife (CDFW) and the California Department of Transportation (Caltrans) (Permittee), as represented by Ms. Kim Floyd.

#### RECITALS

WHEREAS, pursuant to Fish and Game Code (FGC) section 1602, Permittee notified CDFW on December 22, 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 on State Route (SR) 299 between Post Mile (PM) markers 30.0 and 30.8, approximately 9 miles west of the town of Willow Creek, and includes the intersection of Cedar Creek Road and SR 299. The project is located at Unnamed Tributaries to Willow Creek, tributary to Trinity River, tributary to Klamath River, tributary to Pacific Ocean; in the County of Humboldt, State of California; Section 17, Township 6N, Range 4E; Humboldt Base and Meridian, in the Lord-Ellis Summit USGS 7.5-minute quadrangle.

## PROJECT DESCRIPTION

The project consists of work proposed between PM markers 30.0 and 30.8, and revised as of February 20, 2015, to include armoring a stream channel and replacing a culvert on a stream at PM 30.61 for Drainage System 4 (DS-4), and extending DS-4 to accommodate widening of SR 299. An existing wetland in the stream above the roadway will be sustained through the installation of a rip-rap hardened channel beginning approximately 50 feet downstream of the wetland; the riprap will provide grade control and direct stream flow to a Drainage Inlet (DI), which directs water through a culvert under SR 299.

Adjacent to DS-4, the Project also includes work at DS-5 to isolate and treat via a bioswale roadway drainage that was previously mixed with stream flow in this location. Road runoff will be channeled to bypass this location using a road shoulder dike, and water will be treated using a bioswale prior to delivery to Willow Creek.

## PROJECT IMPACTS

Existing fish or wildlife resources the project could substantially adversely affect include: **Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*O. kisutch*), steelhead (*O. mykiss*), northern red-legged frog (*Rana aurora*), foothill yellow-legged frog (*R. 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 of aquatic species, damage to spawning and/or rearing habitats 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 at any time to verify compliance with the Agreement.

## 2. Avoidance and Minimization Measures

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

- 2.1 Except where otherwise stipulated in this Agreement, all work shall be in accordance with the forms, work plans, drawings, biological reports and maps submitted with Notification No. 1600-2014-0368 as submitted as of February 20, 2015. No asphalt ditches that lead to watercourses shall be installed as part of this project.
- 2.2 All work within the bed, bank and channel shall be confined to the period June 1 through October 15 of each year.
- 2.3 Vegetation proposed for removal shall be removed between September 15 and February 28 to avoid impacts to nesting birds. Work in Sept-Nov prior to winter rains is preferable. Any vegetation removal outside the approved work period shall include bird surveys and nesting buffers as appropriate prior to, and while, conducting work.
- 2.4 If sightings or den sites of ring-tailed cat (*Bassariscus astutus*), Pacific fisher (*Martes pennanti*), or marten (*Martes americana*), or other sensitive species are encountered in the course of activities at project sites, the Permittee shall immediately notify and consult with CDFW to identify any measures that may be needed to avoid take or minimize adverse impacts to these species.
- 2.5 No fill material shall be placed within a stream except as specified in this Agreement.
- 2.6 Where flowing water is present during operations:
  - a) A biologist shall be on-site to identify and, if necessary, remove and relocate amphibians, reptiles or other aquatic species.
  - b) Cofferdams shall be installed to divert stream flow and isolate and dewater the work site, and to catch any sediment-laden water and minimize sediment transport downstream. Cofferdams shall be constructed of non-polluting

materials including sand bags, rock, and/or plastic tarps. Mineral soil shall not be used in the construction of cofferdams.

- c) Flowing water shall be cleanly bypassed and/or prevented from entering the work area through pumping or gravity flow, and cleanly returned to the stream below the work area. Flow diversions shall be done in a manner that shall prevent pollution and/or siltation and provides flows to downstream reaches.
  - d) The Responsible Party shall remove any turbid water and sediment present in the work area prior to restoring water flow through the project site, and place them in a location where they cannot enter the Waters of the State.
- 2.7 Equipment shall not operate in a live (flowing) stream or wetted channel except as may be necessary to construct and remove in-stream structures to catch and contain water (i.e., cofferdams) to divert stream flow and isolate the work site, or as otherwise specifically provided for in this Agreement.
- 2.8 Any equipment or vehicles driven and/or operated within or adjacent to the stream channel shall be checked and maintained in a manner which prevents materials that, if introduced to water, could be deleterious to aquatic life, wildlife, or riparian habitat.
- 2.9 Disturbance or removal of vegetation shall not exceed the minimum necessary to complete operations unless specifically authorized to do so under this Agreement. The disturbed portions of any stream channel or banks shall be restored to as near their original condition as possible. Restoration shall include re-vegetation of areas stripped or exposed by project activities. Slash pack, rock, or other erosion protection suitable to CDFW shall be placed in areas where vegetation cannot reasonably be expected to become reestablished.
- 2.10 Adequate and effective erosion and siltation control measures shall be used to prevent sediment or turbid or silt-laden water from entering streams. Where needed, the Permittee shall use native vegetation or other treatments including native slash, jute netting, straw wattles, and geotextiles to protect and stabilize soils. Geotextiles, fiber rolls, and other erosion control treatments shall be made with wildlife-friendly, biodegradable<sup>1</sup> products that will not entrap or harm wildlife. Permanent erosion control products shall not contain synthetic (e.g., plastic or nylon) netting or materials.
- 2.11 All bare mineral soil outside the stream bed exposed in conjunction with crossing deconstruction, construction, maintenance or repair 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. Erosion control shall include using native slash or seeding and mulching with at least 2 to 4 inches clean straw (such as rice, barley, wheat, or weed-free straw), and seeding with regional native seed

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<sup>1</sup> Photodegradable synthetic products are not considered biodegradable.

or non-native seed that is known not to persist or spread, e.g., barley (*Hordeum vulgare*) or wheat (*Triticum aestivum*). No known invasive grass seed such as annual or perennial ryegrass (*Lolium multiflorum* or *L. perenne*, which are now referred to as *Festuca perennis*), shall be used.

- 2.12 Encroachments and associated structures, fills, and other exposed soils shall be armored as needed to protect fill, abutments, and the stream channel and banks from erosion.
- 2.13 The Permittee shall provide site maintenance for the life of the structures, including, but not limited to, re-applying erosion control to minimize surface erosion and ensuring drainage structures, streambeds and banks remain sufficiently armored, stable, and capable of passing stream flows as designed.
- 2.14 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.
- 2.15 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.
- 2.16 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 for all types of hazardous materials spills and incidents. CDFW shall be notified by the Permittee and consulted regarding clean-up procedures.
- 2.17 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. (This is not applicable to material installed permanently or temporarily as a permitted part of the project activities). When operations are complete, any excess materials or debris within 150 feet of the stream channel shall be removed from the work area and disposed of properly prior to the first rainfall.

SITE-SPECIFIC MEASURES:

- 2.18 When the existing culvert at PM 30.61(DS-4) is abandoned, no fill (i.e., cement slurry) shall come in contact with flowing water or a stream. The abandoned pipe work site shall be isolated from all water flow prior to filling with cement slurry.
- 2.19 The rip rap used for channel hardening above PM 30.61 shall be installed to maintain the wetland upstream. The culvert under S.R. 299 and the hardened channel shall be sized to pass the estimated 100-year flood flow, including debris and sediment loads, without overtopping or diverting. Sizing factors shall include transport of bedload, and the abundance and size of woody debris likely to be introduced to the stream.
- 2.20 The permanent culvert at PM 30.61 and it's outfall structure shall be aligned with the stream channel, and shall have a downspout and/or energy dissipator below the outfall as needed to effectively control erosion.
- 2.21 Any excavated fill from work at DS-4 and/or DS-5 shall be placed in stable areas where it cannot enter or erode into a stream.
- 2.22 To prevent the release of materials that may be toxic to fish and other aquatic species from site DS-5, either a precast concrete headwall shall be used, or any poured concrete for a cast-in-place headwall shall be isolated from water and allowed to dry/cure for a minimum of 30 days.
- 2.23 DS-5, the road shoulder dike, and the bioswale shall be maintained as needed to ensure they function properly over the long term.

**3. Reporting Measures**

Permittee shall meet each reporting requirement described below.

- 3.1 Permittee shall notify CDFW in writing at least five (5) days prior to initiation of construction (project) activities and at least five (5) days prior to completion of construction (project) activities. Information to be disclosed in Notification shall include Agreement number and anticipated start/completion date.

## **CONTACT INFORMATION**

Written communication or documentation that Permittee or CDFW submits to the other shall be delivered to the address below unless Permittee or CDFW specifies otherwise:

To Permittee:

Ms. Kim Floyd  
Caltrans  
1656 Union Street  
Eureka, California 95501  
Office Phone: 707-441-5899  
E-Mail: [kim.floyd@dot.ca.gov](mailto:kim.floyd@dot.ca.gov)

To CDFW:

Department of Fish and Wildlife  
Region 1  
619 Second Street  
Eureka, California 95501  
Attn: Lake and Streambed Alteration Program  
Notification #1600-2014-0368-R1  
Fax: 707-441-2021

## **LIABILITY**

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

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

## **SUSPENSION AND REVOCATION**

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

Before CDFW suspends or revokes the Agreement, it shall provide Permittee written notice by certified or registered mail that it intends to suspend or revoke. The notice shall state the reason(s) for the proposed suspension or revocation, provide Permittee an opportunity to correct any deficiency before 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 sections 2050 et seq. (threatened and endangered species), 3503 (bird nests and eggs), 3503.5 (birds of prey), 5650 (water pollution), 5652 (refuse disposal into water), 5901 (fish passage), 5937 (sufficient water for fish), and 5948 (obstruction of stream).

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

## **AMENDMENT**

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., tit. 14, § 699.5).

## TRANSFER AND ASSIGNMENT

This Agreement may not be transferred or assigned to another entity, and any purported transfer or assignment of the Agreement to another entity shall not be valid or effective, unless the transfer or assignment is requested by Permittee in writing, as specified below, and thereafter 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., tit. 14, § 699.5).

## EXTENSIONS

In accordance with FGC section 1605(b), Permittee may request one extension of the Agreement, provided the request is made prior to the expiration of the Agreement's term. To request an extension, Permittee shall submit to 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., tit. 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 (Fish & G. Code, § 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 section 711.4 filing fee listed at [http://www.cdfw.ca.gov/habcon/ceqa/ceqa\\_changes.html](http://www.cdfw.ca.gov/habcon/ceqa/ceqa_changes.html).

## TERM

This Agreement shall expire ***three 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.

## 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.

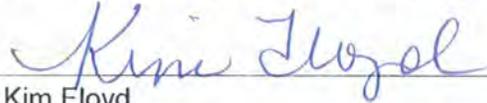
## AUTHORIZATION

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.

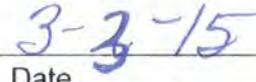
## CONCURRENCE

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

### FOR CALIFORNIA DEPT OF TRANSPORTATION



Kim Floyd  
Project Manager

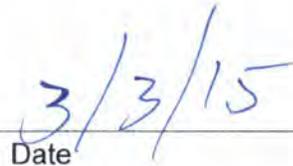


Date

### FOR DEPARTMENT OF FISH AND WILDLIFE



Gordon Leppig  
Senior Environmental Scientist (Supervisory)



Date

# **MATERIALS INFORMATION**

Cutslope Recommendations,

Dated 4/02/2015

# Memorandum

*Flex your power!  
Be energy efficient!*

To: JOHN MARTIN  
BRANCH CHIEF  
Design R1

Date: April 2, 2015

File: 01-HUM-199-PM 30.2/30.6  
EA 01-0A3201  
EFIS 0100020307  
Cedar Gap  
Alignment/Widening

Attn: Robert Nixon  
Project Engineer

From: DEPARTMENT OF TRANSPORTATION  
DIVISION OF ENGINEERING SERVICES  
Geotechnical Services  
Office of Geotechnical Design North

Subject: Cutslope Recommendations

## Introduction

This report, prepared by the Office of Geotechnical Design North (OGDN), provides geotechnical recommendations for the proposed cuts in the Cedar Gap curve realignment project. The project is located between Mile Post 30.2 and 30.6 on highway 299 in Humboldt County, California (Figure 1).

## Project Description/Scope of Work

This safety project has been proposed due to the concentration of collisions occurring within the project limits. The project proposes to realign the roadway to replace the existing compound curve with a single 700-foot radius curve. The scope of the project includes shifting the existing roadway north and west and incorporating 8-foot shoulders.

The recommendations contained in this report are based on a review of geologic literature and mapping, field mapping, geotechnical borings and the results of a seismic refraction survey.

## Regional/Site Geology

The project is located at the eastern edge of the Coast Ranges Province. The Province exists in a terrane created by the accretion of oceanic sediments as the offshore oceanic plate subducts under the continent. The terrane is typically characterized by steep mountains comprised of weak bedrock and deeply incised drainages. Mapping by Falls and Hardin (2005) indicates aerially extensive quaternary landslides underlain by sandstone rocks of the Eastern Belt Franciscan Complex in the vicinity of the project (Figure 2). The Eastern

Belt Franciscan Complex is divided into subunits based on lithology and topographic expression. The Lacks Creek unit underlies the project area extending from Station 100+00 to approximately Station 119+00. The Unit is described as a resistant, locally massive, well indurated and fractured sandstone with interbedded mudstones. The remainder of the project area is underlain by the Coyote Creek unit. This unit includes fine grained sandstone and siltstone with minor inclusions of greenstone, chert and claystone. The unit has been pervasively sheared into mélangé. The Coyote Creek unit is truncated by the Coast Range Thrust Fault approximately 0.7 mile east of the project.

The slopes north of the highway between approximately Stations 113+00 and 123+00 are mapped as aerially extensive dormant mature deep seated landslides and more recent, smaller areas of mass wasting. Surface morphology of the dormant mature landslide is generally subdued with rounded slope transitions and well entrenched, deeply incised drainages. A historic debris slide is mapped from approximately Station 119+00 and extending approximately 700 feet to the east and outside of the project area. SR 299 traverses the toe of both mapped landslides.

Active landslides exist in the vicinity of this project. One is located due east of the project at PM 30.75. The landslide measures approximately 150 feet in width and 450 feet in length. Persistent creep of the shallow landslide compromised the inboard ditch and created a push up in the west bound lane. OGDN provided mitigation recommendations in 2011 (McGwire, 2011; EA 01-4374) and the rate of continued movement was significantly reduced. The landslide occurs within the Coyote Creek Unit of the Eastern Belt of the Franciscan Complex.

### **Field Observations**

The existing cut between Stations 100+00 and 107+00 exposes predominantly intensely fractured sandstone bedrock (Figure 3). The existing cut is benched and ranges between 50° and 65° in inclination. The vertical heights from the roadway to the first bench vary from 35 to 50 feet. From As-Built plans, the benches were constructed to a width of 15 feet. Colluvium has accumulated on the benches over time. The colluvium is comprised of angular clasts that average 3 inches in size and range from sand size to 6 inches in the longest direction. Our observations are consistent with the lithologic description of the Lacks Creek unit.

The existing cut between Stations 113+00 and 115+75 expose intensely fractured sandstone with mudstone interbeds overlain by a coarse grained soil. Cobbles and boulders exist within the coarse grained soil (Figure 4). A mid slope bench roughly defines the contact between the bedrock and overlying coarse grained soil. Below the bench, the cutslope varies between 45° and 52° in inclination with vertical heights of 50 feet. The overlying approximately 15-foot thick layer of coarse grained soil is inclined between 35° and 40°, and is near vertical and locally overhanging near the top of the cut. Cobble and boulder are exposed at the top of cut. At approximately Station 114+00, the existing cutslope is overhanging. Boulders up to 3 feet in diameter are exposed in the cut. A downlope leaning fir tree with considerable exposed roots exists adjacent the top of cut

(Figure 5). The unstable area measures approximately 25 feet (road length) by 15 feet (inset from cut) and is approximately 8 feet thick.

The existing cut between Stations 115+75 and 119+00 exposes what is interpreted to be a dormant-mature landslide deposit (Figure 6). The existing cut measures to 10 feet in height and predominantly exposes a coarse grained soil containing some cobble and boulder. The natural slope above the cutslope exhibit a high density of large boulders ranging from fully to partially exposed across the forest floor. The boulders vary in size from 2-feet in diameter to over 30 feet in diameter. The boulders are predominantly meta-greywacke and include wide spaced fractures. The boulders are rounded to subrounded. The slopes above the existing cut vary from 25° to 35° in inclination and are hummocky. Intact old logging roads and plumb insitu old growth stumps exist on the slope. We infer that the timber stand was harvested roughly 60 to 80 years ago coincident with the original highway alignment. As-Builts suggest that the current highway alignment was constructed in the mid 1950s. We observed no indication that landslide movement has occurred since the timber harvest or in response to the reconstruction of 299 across and through the toe of the landslide.

The cut from Station 119+00 to 123+14 exposes what is interpreted to be insitu, decomposed sandstone/argillite bedrock (Figure 7). Falls and Hardin (2005) map this location to be a historically active debris slide. The exposed material is of a coarse grained gravelly soil with a subtle but detectible fracture/joint/bedding plane fabric. The matrix is comprised of clays, sand and chert/sandstone gravels consistent with the Coyote Creek Unit of the Eastern Belt of the Franciscan Complex. The existing slopes are inclined approximately 50 degrees and locally are vertical for a height of 15 feet. The native slopes range from the low 20s to low 30s for heights up to 30 feet. The slope is crossed with several intact logging roads and populated with plumb, insitu old growth stumps indicating that significant slope movement has not occurred recently.

### Subsurface conditions

Three horizontal borings (RC-14-001, RC-14-002 and RC-14-003) were drilled to aid characterization of the subsurface conditions. Refer to Figure 8a and 8b for boring location. A summary of the boring information is provided in Table 1. The boring records are provided in Attachment A.

Table 1: Boring Summary

Horizontal Boring #	Station #	Horizontal Distance to Bedrock (ft)	Length of Boring (ft)	Bedrock Type
RC-14-001	118+00	10.5	40	Sandstone
RC-14-002	121+40	11	32.5	Sandstone
RC-14-003	122+80	19	24	Sandstone

Boring RC-14-001 is located within the limits of the dormant mature landslide. RC-14-002 and RC-14-003 are located in the decomposed bedrock location.

The sandstone bedrock encountered at depth within the borings is consistent with the sandstone exposed in the cutslope from Station 113+00 to 116+00.

**Groundwater / Surface Water**

Groundwater emerges from an old logging road cutslope about 400 feet upslope of the highway and due north of Station 117+60. Figure 8b shows the flow path of the water as it meanders downslope to the highway. Where adjacent the highway, CT Environmental has identified approximately 45 feet of channel as a jurisdictional wetland (perimeter identified on Figure 8b). The water is relieved across the highway via a drainage inlet and culvert. The project engineer plans to retain this wetland and provide controlled wetland overflow. The plans call for a Rock Slope Protection (RSP) lined ditch down the cutslope to a dedicated drainage inlet at the proposed highway’s edge.

A hand auger boring was placed 2.5 feet from the edge of the wetted channel coincident with Station 119+40. Free water was located at a depth of 3 feet bgs within the boring. This suggests a steep water table inclined at approximately 45 degrees.

The top of the proposed 1.5H:1V cut is approximately 25 feet downslope of the wetted perimeter of the wetland.

**Seismic Refraction Survey**

Six seismic refraction lines were surveyed as part of the field investigation for the proposed cuts. The approximate locations of the seismic refraction survey lines are shown in Figure 8a and 8b. All of the refraction lines are located within the limits of the existing road cuts with exception of lines 3 and 4. These lines are located on native slopes. The velocity profiles for Seismic Refraction Lines 1 through 6 are provided in Attachment B. Table 2 summarizes the results of the seismic refraction surveys.

Table 2: Summary of Seismic Refraction Survey

Line No.	Layer	Average Thickness (ft)	Velocity (ft/s)	Inferred Geologic Material	Rippability <sup>1</sup>
Line 1	1	28	1850	Colluvium	ER
Line 1	2	NA	7100	Sandstone Bedrock	NR
Line 2	1	5	1760	Colluvium	ER
Line 2	2	21	3300	Weathered Bedrock	MD
Line 2	3	NA	8000	Sandstone Bedrock	NR
Line 3	1	6	1140	Colluvium	ER
Line 3	2	15	2700	Landslide Deposit	ER
Line 3	3	NA	7700	Sandstone Bedrock	NR
Line 4	1	20	1860	Colluvium	ER
Line 4	2	NA	8000	Sandstone Bedrock	NR
Line 5	1	6	1200	Decomposed Bedrock	ER
Line 5	2	NA	5500	Sandstone Bedrock	DR
Line 6	1	13	1100	Decomposed	ER

				<b>Bedrock</b>	
Line 6	2	NA	4500	Sandstone Bedrock	MD

<sup>1</sup>ER-Easily Ripped, MD-Moderately Difficult, DR-Difficult Ripping, NR-Not Rippable, NA-Not applicable

Ripping ability is based on MacGregor (1995) for heavy series bulldozers with a single-tooth ripper. The velocities and corresponding rippability is presented in Table 3:

Table 3: Rippability Summary

Velocity (ft/s)	Rippability
<3445	Easily Ripped
3445-4921	Moderately Difficult
4921-6562	Difficult Ripping
>6562	Not Rippable

Different excavation equipment may experience different results. Penetrating efficacy of the ripping tooth is often more important in predicting ripping success than seismic velocity alone.

Results of the seismic refraction surveys indicate that portions of the proposed cuts will not be rippable. However, based on the fracture density observed in the existing cuts and the core samples retrieved during horizontal drilling, it is anticipated that the majority of the rock within the limits of the proposed cut will be rippable. Locally, alternative methods of rock excavation may be required. Boulders encountered in the proposed excavation within the limits of the dormant mature landslide deposit (Stations 115+75 to 119+00) will likely require blasting. Rock exposed in the existing cutslope at ~Station 118+75 (similar to the boulders in the landslide deposit) exhibit remnants of two drilled holes for blasting.

### Cutslope Recommendations

Table 4 presents our cutslope ratio recommendations:

Table 4: Cutslope Ratio Recommendations.

Project Stationing	Cutslope Ratio (H:V)	Comments
104+75 to 106+80	0.75:1	catchpoint within existing cut between 1st and 2nd bench
113+50 to 114+50	1:1	catchpoint coincident with inboard edge of existing bench
114+50 to 118+50	1:1	hammer or blast boulders that protrude cut face back to cut plane.
118+50 to 123+00	1.5:1	cutslope transition should be rounded.

### Construction Considerations

From Station 105+35 to Station 106+75, the proposed cut will intersect a large accumulation of colluvium. The lobate deposit of colluvium is roughly 60 feet in width and

extends upslope 40 feet. At the time of slope grading for the cutslope, the raveled material that is surficially deposited on the existing cutslope needs to be excavated as well. The material should be dragged downslope into the construction area for removal. The result should be a lightly graded slope in plane with the proposed cutslope.

Station 114+00: The vertical to overhanging catchpoint of the existing cutslope at this location should be graded to remove the overhang and subsequent perched boulders (Figure 5). This can be accomplished within the CT Right of Way and accessed from the existing cut. This work will occur upslope of the proposed cutline.

Sandstone boulders exposed at the ground surface within the landslide deposit (Sta. 115+75 to Sta. 119+00) are very hard and moderately to slightly fractured. Blasting to reduce their size for construction purposes will likely be required. Based on seismic refraction data and horizontal boring data, we estimate that 2300 cubic yards of rock between Stations 115+75 to 119+00 will require blasting.

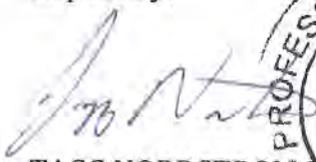
Based on refraction and boring data, we anticipate that the proposed cut from Station 120+30 to 123+50 will be entirely in decomposed bedrock.

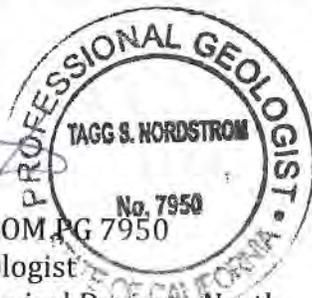
All Locations: Based on the degree of fracturing observed in the existing cut and reported on the Boring Records for borings RC-14-001, RC-14-002 and RC-14-003, it is anticipated that the majority of the rock within the limits of the proposed cut will be rippable. We anticipate zones requiring the use of pneumatic hammers, hydraulic splitters or other rock excavation techniques will be encountered within the limits of the proposed cut.

If rock that cannot be ripped is encountered within the limits of the proposed cut requiring the use of pneumatic hammers, hydraulic splitters or other rock excavation techniques, removal of the rock will be performed in accordance with Standard Special Provision 19-4 Rock Excavation. If blasting is required, all blasting will be performed in accordance with Standard Special Provision 19-4 Rock Excavation (Controlled Blasting).

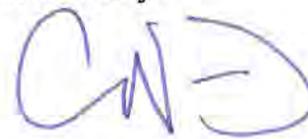
If you have any questions or require further assistance, please call Tagg Nordstrom at (707) 445-7884 or Charlie Narwold at (707) 445-6036.

Report By:

  
TAGG NORDSTROM, PG 7950  
Engineering Geologist  
Office of Geotechnical Design - North  
Branch B



Reviewed By:

  
Charlie Narwold CEG 2335  
Senior Engineering Geologist  
Office of Geotechnical Design - North  
Branch B



Tables:

- Table 1: Boring Summary
- Table 2: Summary of Seismic Refraction Survey
- Table 3: Rippability Summary
- Table 4: Cutslope Ratio Recommendations

Figures:

- Figure 1 –Vicinity Map
- Figure 2 –Geologic Map
- Figure 2a-Geologic Descriptions
- Figure 3 –Photos of Existing Cutslope: Sta. 100+00 to 107+00
- Figure 4 –Photos of Existing Cutslope: Sta. 113+00 to 115+75
- Figure 5 –Photos of Existing Cutslope: ~Station 114+00 @ ROW
- Figure 6 –Photos of Existing Cutslope: Sta. 115.75 to 118+50
- Figure 7 – Photos of Existing Cutslope:Sta. 118+50 to 123+14
- Figure 8a- Plan Map (west)
- Figure 8b- Plan Map (east)

Attachments:

- Attachment A: Boring Records
- Attachment B: Seismic Refraction Profiles

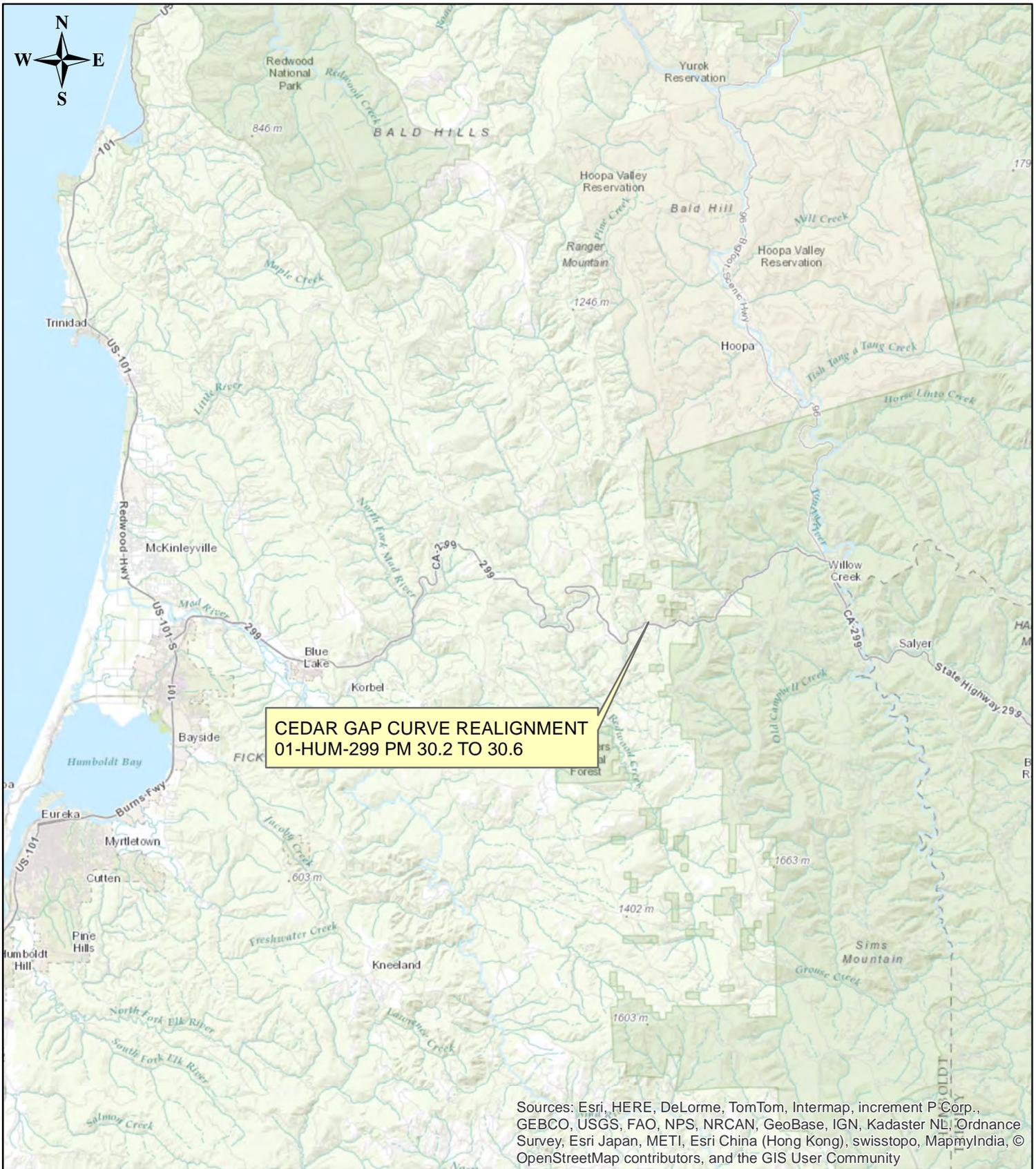
c: OGDN Project Folder  
GS File Room  
Construction RE Pending File  
Project Manager

**References**

Falls JN, Willis CJ, and Hardin BC, 2006, Special Report 195 - Landslides in the Highway 299 Corridor Between Blue Lake and Willow Creek, Humboldt County, California. California Geological Survey, 59 pgs.

MacGregor F., Fell R., Motsyn G.R., Hocking G., and McNally G., 1994, The Estimation of Rock Rippability, Quarterly Journal of Engineering Geology, 27, pgs 123 -144.

McGwire, D., Narwold, C., 2011. Preliminary Geotechnical Report, Low Gap Buttress. Interoffice Memorandum to Dennis McBride, Branch Chief, Design E2.



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

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

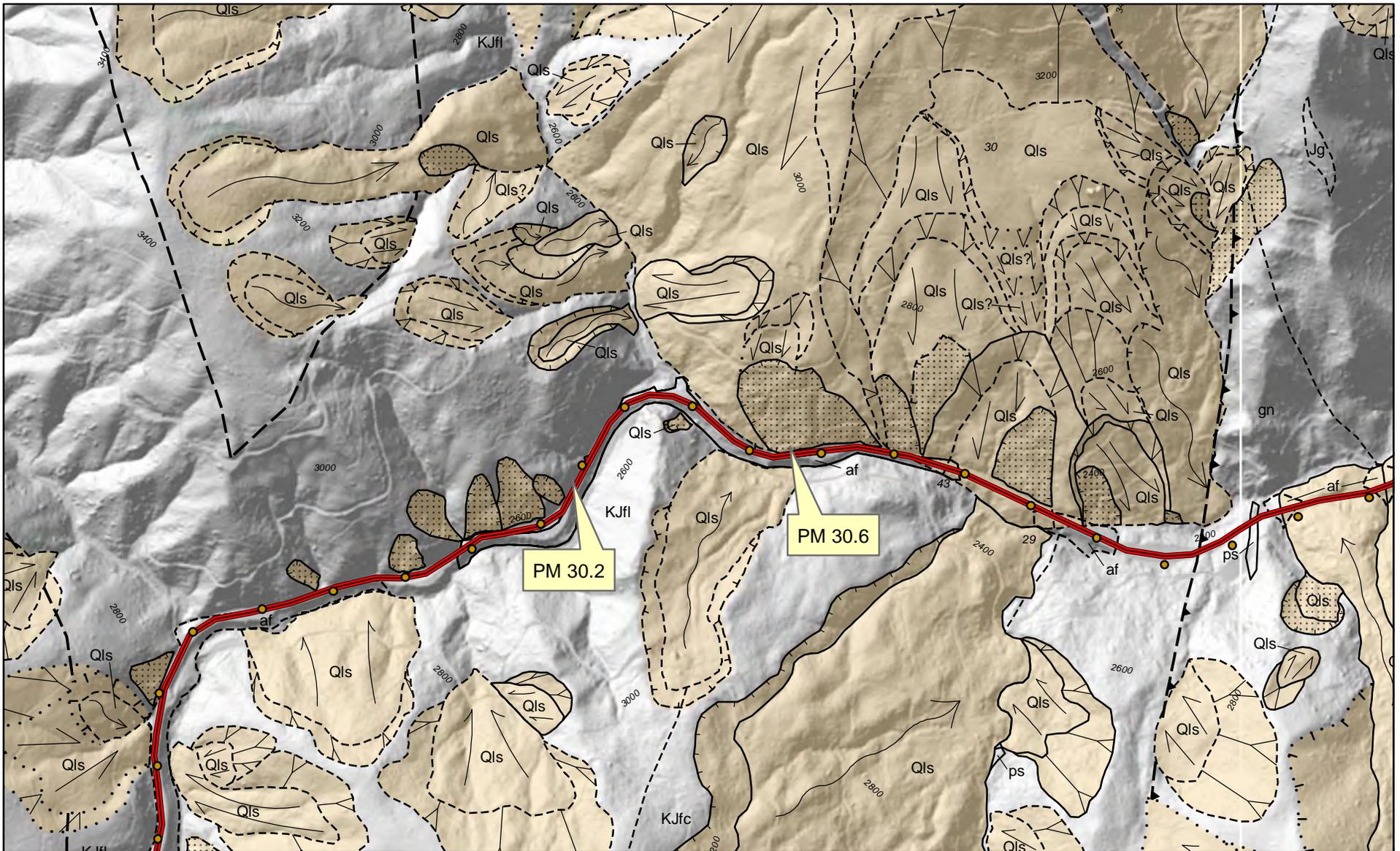
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DATE: APRIL 2015

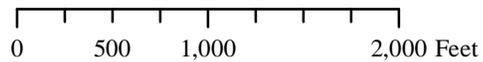
VICINITY MAP

CEDAR GAP CURVE REALIGNMENT  
 01-HUM-299 PM 30.2 TO 30.6

FIGURE 1



From: Falls, J.N., Hardin, B.C. (2005)  
 See Figure 2a for Geologic Descriptions



	Department of Transportation Division of Engineering Services Geotechnical Services Office of Geotechnical Design North Branch B	EFIS: 0100020307	<b>GEOLOGIC MAP</b>
		DATE: APRIL 2015	
		<b>Cedar Gap Curve Realignment          01-HUM-299 PM 30.2 to 30.6</b>	

## Geologic Descriptions

af

Artificial fill (Holocene) - Heterogeneous mixture of artificially deposited material deposited ranging from well compacted gravel, sand, silt and clay to poorly compacted sediment high in organic content.

KJfl

Coherent unit of Lacks Creek (Cretaceous-Jurassic) Eastern Belt Franciscan Complex - This unit consists of a relatively resistant assemblage of sandstone and mudstone. Intact sections of interbedded sandstone and mudstone show rhythmic bedding and sedimentary structures characteristic of turbidites. Sandstones are composed of lithic greywacke and quartzofeldspathic greywacke (Cashman et al., 1995). Massive sandstone beds are up to 10 m thick and are typically 0.1 - 3 m thick where interbedded with mudstone.

KJfc

Incoherent unit of Coyote Creek (Cretaceous-Jurassic) Eastern Belt Franciscan Complex - This unit consists dominantly of a fine-grained sandstone and shale assemblage that has been pervasively sheared into a mélangé by tectonic processes. The unit underlies the Redwood Creek basin east of the Grogan fault. The Coyote Creek unit is further characterized by the presence of greenstone, chert and minor conglomerate. Greenstone blocks are found as "floaters" in pervasively sheared mudstone matrix. Soils developing on the bedrock are typically clay rich and highly susceptible to erosion and sliding.

Jg

Galice Formation (Jurassic) - Very fine- to coarse-grained gray phyllitic metagraywacke. Finer portions altered to slate and phyllitic slate. Level of metamorphism generally increases westward through the unit. Numerous exposures streams show graded bedding typical of turbidite sequences. Intruded by scattered metamorphic-felsite dikes and sills. Areas underlain by slates and phyllitic slate are especially subject to slope failure.

ps

Undifferentiated Ultramafic rocks (Mesozoic) - Seen as sporadic sheared lenses and sheet-like masses of peridotite and serpentinite. Larger bodies are serpentinitized peridotite, while smaller bodies are largely serpentinite. No occurrences of asbestos have been noted in this unit.



**ROCK SLIDE:** Slope movement with bedrock as its primary source material. This class of failure includes rotational and translational landslides; relatively cohesive slide masses with failure planes that are deep-seated in comparison to those debris slides of similar areal extent. The slide plane is curved in a rotational slide. Movement along a planer joint or bedding surface may be referred to as translational. Complex versions with combinations of rotational heads and translational movement or earthflows downslope are common. Landslide boundary indicates confidence; solid line- definite, dashed line - probable, dotted line - questionable. indicates a scarp, arrows show direction of movement. QIs denotes deposit when present.



**EARTHFLOW:** Slow to rapid movement of mostly fine-grained soil with some rocky debris in a semi-viscous, highly plastic state. After initial failure, the mass may flow or creep seasonally in response to changes in groundwater level. These types of slope failures often include complexes of nested rotational slides and deeply incised gullies. Landslide boundary indicates confidence; solid line- definite, dashed line - probable, dotted line - questionable. indicates scarp, arrows show direction of movement. QIs denotes deposit when present.



**DEBRIS SLIDE:** Mass of unconsolidated rock, colluvium, and coarse-grained soil that has moved slowly to rapidly downslope along a relatively steep, shallow, translational failure plane. Debris slides form steep, unvegetated scars in the head region and possibly irregular, hummocky deposits in the toe region. Scars commonly erode and remain unvegetated for several seasons depending on slope aspect. Landslide boundary indicates confidence; solid line- definite, dashed line - probable, dotted line - questionable. Landslide deposit is locally absent. indicates scarp, no arrows are used to portray landslide movement direction. QIs denotes deposit when present.



**DEBRIS FLOW:** Long stretches of bare ground that have been scoured and eroded to bedrock by extremely rapid movement of water-laden debris. Debris flows are commonly triggered by debris sliding in the source area during high intensity rains. Debris is often deposited downslope as a tangled mass of organic material in a matrix of rock, and soil; debris may be reworked and incorporated into subsequent events; lack of vegetation indicates recent activity. Landslide boundary indicates confidence; solid line- definite, dashed line - probable, dotted line - questionable. Landslide deposit is locally absent. indicates scarp, arrow shows direction of movement. QIs denotes deposit when present.



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

EFIS: 0100020307

DATE: APRIL 2015

**Cedar Gap Curve Realignment  
01-HUM-299 PM 30.2 to 30.6**

**Geologic Descriptions**

FIGURE 2a



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

EFIS: 0100020307

Date: APRIL 2015

PHOTOS OF EXISTING CUTSLOPE:  
STATION 100+00 TO 107+00

CEDAR GAP CURVE REALIGNMENT  
 01-HUM-299 PM 30.2 TO 30.6

Figure  
 3



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

EFIS: 010020307

Date: APRIL 2015

PHOTOS OF EXISTING CUTSLOPE:  
 STATIONS 113+00 TO 115+75

CEDAR GAP CURVE REALIGNMENT  
 01-HUM-299 PM 30.2 TO 30.6

Figure  
 4



Deposited rocks from cutslope shown in above photo.



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

EFIS: 010020307

Date: APRIL 2015

PHOTOS OF EXISTING CUTSLOPE:  
 ~STATION 114+00 @ ROW

CEDAR GAP CURVE REALIGNMENT  
 01-HUM-299 PM 30.2 TO 30.6

Figure  
 5



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

EFIS: 0100020307

Date: APRIL 2015

PHOTOS OF EXISTING CUTSLOPE:  
STA. 115+75 TO 118+50

CEDAR GAP CURVE REALIGNMENT  
01-HUM-299 PM 30.2 TO 30.6

Figure  
6



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

EFIS: 0100020307

Date: APRIL 2015

PHOTOS OF EXISTING CUTSLOPE:  
 STA. 118+50 TO 123+14

CEDAR GAP CURVE REALIGNMENT  
 01-HUM-299 PM 30.2 TO 30.6

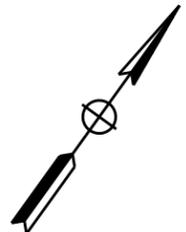
Figure  
 7

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	299	30.2/30.6	6	57

**DRAFT CONTRACT REVIEW** 03-17-15  
REGISTERED CIVIL ENGINEER DATE  
XX-XX-15  
PLANS APPROVAL DATE

ROBERT J. NIXON  
No. C69123  
Exp. 06-30-16  
CIVIL  
STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



**NOTES:**

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**LEGEND:**

- NEW STRUCTURAL SECTION
- HMA OVERLAY AREA VARIABLE DEPTH
- ESA FENCE
- SEISMIC LINE

**ABBREVIATIONS:**

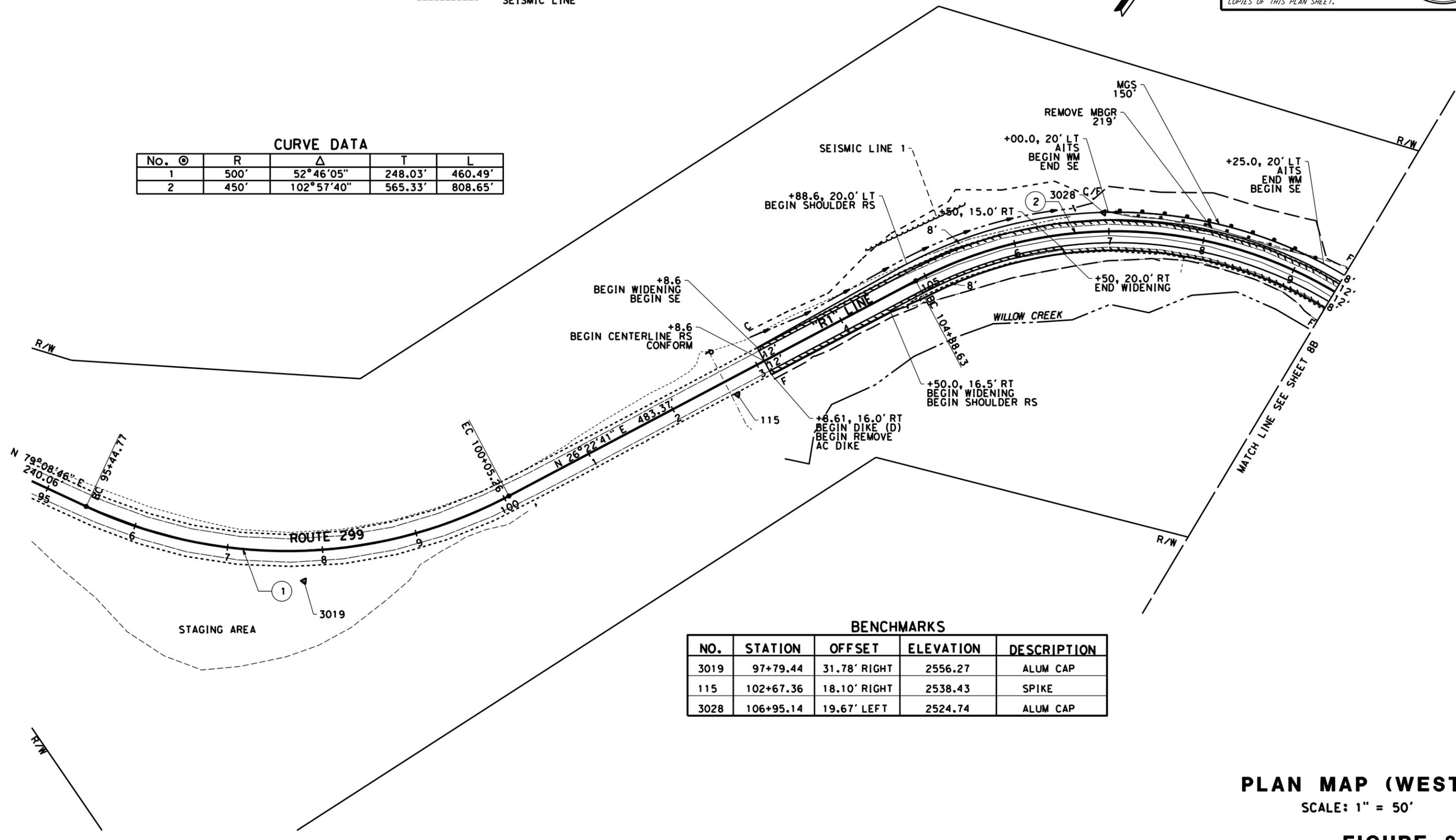
- AITs ALTERNATIVE IN-LINE TERMINAL SYSTEM
- DIKE (A) PLACE HOT MIX ASPHALT DIKE (TYPE A)
- DIKE (D) PLACE HOT MIX ASPHALT DIKE (TYPE D)
- RS RUMBLE STRIP (HMA, GROUND-IN INDENTATIONS)
- SE SAFETY EDGE
- WM WEED CONTROL MAT (FIBER)

**CURVE DATA**

No.	⊙	R	Δ	T	L
1		500'	52°46'05"	248.03'	460.49'
2		450'	102°57'40"	565.33'	808.65'

**BENCHMARKS**

NO.	STATION	OFFSET	ELEVATION	DESCRIPTION
3019	97+79.44	31.78' RIGHT	2556.27	ALUM CAP
115	102+67.36	18.10' RIGHT	2538.43	SPIKE
3028	106+95.14	19.67' LEFT	2524.74	ALUM CAP



**PLAN MAP (WEST)**

SCALE: 1" = 50'

**FIGURE 8A**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 DESIGN  
 JOHN L. MARTIN  
 FUNCTIONAL SUPERVISOR  
 CHECKED BY  
 ROBERT NIXON  
 REGISTERED CIVIL ENGINEER  
 DATE REVISIONS  
 DATE REVISIONS

LAST REVISION DATE PLOTTED => DATE  
 12-30-14 TIME PLOTTED => TIME

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Hum	299	30.2/30.6	7	57

**DRAFT CONTRACT REVIEW**  
REGISTERED CIVIL ENGINEER DATE 03-17-15  
XX-XX-15  
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
**ROBERT J. NIXON**  
No. C69123  
Exp. 06-30-16  
CIVIL  
STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTE:**

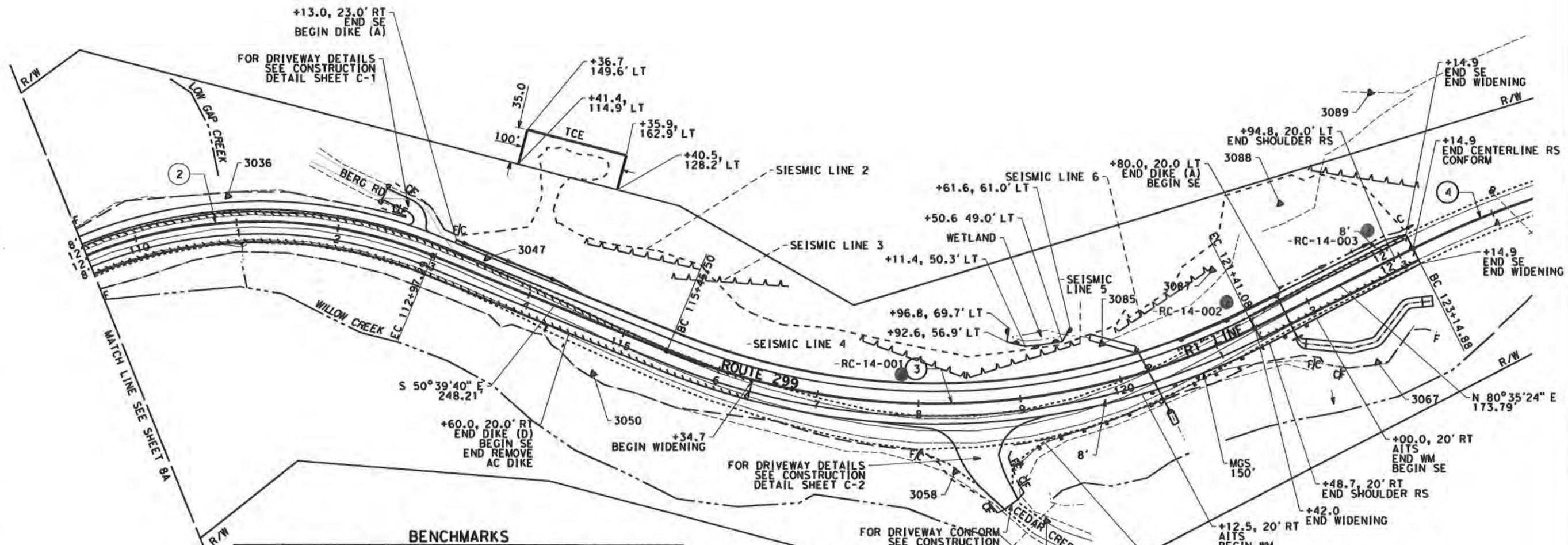
1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**CURVE DATA**

No. @	R	Δ	T	L
2	450'	102°57'40"	565.33'	808.65'
3	700'	48°44'57"	317.16'	595.58'
4	900'	22°44'32"	181.00'	357.23'



REVISIONS: \* \* \* \* \*  
 REVISOR: JOLENA ASTIN, ROBERT NIXON  
 CHECKED BY: JOHN L. MARTIN  
 FUNCTIONAL SUPERVISOR: JOHN L. MARTIN  
 DESIGNED BY: JOLENA ASTIN, ROBERT NIXON  
 CALCULATED BY: JOLENA ASTIN, ROBERT NIXON  
 REVISIONS: \* \* \* \* \*  
 REQUEST: STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 DESIGN



**BENCHMARKS**

NO.	STATION	OFFSET	ELEVATION	DESCRIPTION
3036	110+93.23	26.31' LEFT	2506.68	ALUM CAP
3047	113+47.99	18.12' LEFT	2497.43	ALUM CAP
3050	114+87.38	48.03' RIGHT	2485.05	SPIKE
3058	118+34.82	66.88' RIGHT	2467.08	ALUM CAP
3086	119+09.78	122.44' RIGHT	2456.03	SPIKE
3085	119+90.72	38.28' LEFT	2475.38	SPIKE
3087	121+28.50	69.35' LEFT	2489.03	SPIKE
3088	122+18.26	98.13' LEFT	2502.13	SPIKE
3067	122+34.46	84.39' RIGHT	2440.05	SPIKE
3089	123+41.37	21.16' LEFT	2516.54	SPIKE

● BORING LOCATION  
 RC-14-00#

**PLAN MAP (EAST)**  
 SCALE: 1" = 50'

**FIGURE 8B**

LAST REVISION: DATE PLOTTED => DATE  
 12-30-14 TIME PLOTTED => TIME

**ATTACHMENT A: BORING RECORDS**

**ROTARY FIELD NOTES**

TL-1271a (REV. 05/04/08)

BORING NUMBER: RC-14-001      DATE: 12/8/2014

DIST. 01      CO. HUM      RTE. 299      P.M. (K.P.) 30.2 / 30.6      BRIDGE #

LOCATION (STA/OFFSET or NORTHING/EASTING)  
Cutslope at Station 118+00 (Boulder Field)

BRIDGE NAME      EFIS NUMBER  
0100020307, 01-0A3200

TOP HOLE ELEVATION  
2475 ft msl

CREW: Ruen Drilling      EQUIPMENT: Boart Longyear LF 70      CHC NUMBER

HAMMER ID#

SITE LOCATION MAP (Inc. North Arrow & Benchmark Datum)	LOGGER T. Nordstrom	
	GWS NA	DATE 12/8/2014
	GWS	DATE
	CASING SIZE None	CASING DEPTH
	CASING SIZE	CASING DEPTH
	SLURRY TYPE	
	SURFACE CONDITIONS (Ground Slope, Water, Vegetation, etc) Horizontal Drilled in existing cutslope. Drilled perpendicular to traveled way at N40E.	

REMARKS (Tool Sizes/Type - Rods & Bits, etc) (Hole Condition – Caving, Squeezing, Loss of Circulation, etc.) RECOVERY & RQD Drill Rig reactions – slowing, chattering, skipping, blocking off)	FIELD TESTING			DEPTH	GRAPHIC LOG	DESCRIPTION <i>Soil Classification (group name, group symbol, consistency/relative density, color, moisture, percent of cobbles or boulders, particle size range, plasticity, cementation, description of cobbles and boulders. Take q<sub>u</sub>, S<sub>u</sub>, Additional Comments)</i> <i>Rock Classification (Rock name, bedding spacing, color, weathering descriptors, rock hardness, fracture density, discontinuity characteristic: type, weathering, dip &amp; magnitude. Slaking, odor, other characteristics)</i>
	SAMPLE #	BLOWS PER 6"	SPT (N)			
Diamond core 5" with tri-cone inner for short casing / pilot hole.				1	GRAPHIC LOG	No recovery due to pilot hole drilling
Diamond Core bit, 4" OD, 10' sticks				2		
Punch core sampler, 3" OD				3		
Drilled with water				4		
Drilling considered soft throughout the length of boring by the driller				5		Lean Clay with GRAVEL (CL); stiff; brown and tan; moist, fine and coarse Gravel, angular;
				6		
				7		SEDIMENTARY ROCK (GRAYWACKE); medium-grained, moderately weathered; moderately hard; intensely fractured;
				8		dissolution veins
				9		Poorly-graded GRAVEL (GP); very loose; black and tan; moist; coarse SANDSTONE Gravel.
No recovery from 9.5' to 12.5'				10		

**ROTARY FIELD NOTES**

TL-1271a (REV. 05/04/08)

BORING NUMBER RC-14-001	DATE 12/8/14	DIST. 01	CO. HUM	RTE. 299	P.M. (K.P.) 30.2 / 30.6
LOCATION (STA/OFFSET or NORTHING/EASTING) Cutslope at Station 118+00		TOP HOLE ELEVATION 2475 ft msl		BRIDGE #	EFIS NUMBER 0100020307, 01-0A3200

REMARKS (Tool Sizes/Type - Rods & Bits, etc) (Hole Condition – Caving, Squeezing, Loss of Circulation, etc) RECOVERY & RQD Drill Rig reactions – slowing, chattering, skipping, blocking off)	FIELD TESTING			DEPTH	GRAPHIC LOG	DESCRIPTION <i>Soil Classification</i> (group name, group symbol, consistency/relative density, color, moisture, percent of cobbles or boulders, particle size range, plasticity, cementation, description of cobbles and boulders. Take $q_u$ , $s_u$ , Additional Comments) <i>Rock Classification</i> (Rock name, bedding spacing, color, weathering descriptors, rock hardness, fracture density, discontinuity characteristic: type, weathering, dip & magnitude. Slaking, odor, other characteristics)
	SAMPLE #	BLOWS PER 6"	SPT (N)			
				11		
8" Recovery				12		
				13		CLAYEY GRAVEL (GC); m. dense; blue gray; moist; coarse; little sand.
Weathered SANDSTONE				14		Well-graded GRAVEL (GW); loose; tan and brown; moist; trace Fines.
				15		
				16		
6" Recovery				17		
				18		SEDIMENTARY ROCK (GREYWACKE); medium-grained; fresh; hard; gray; very intensely fractured;
				19		
18" Recovery				20		
				21		
				22		
				23		
				24		
				25		
				26		
				27		



**ROTARY FIELD NOTES**

TL-1271a (REV. 05/04/08)

BORING NUMBER: RC-14-002      DATE: 12/9/2014

DIST. 01      CO. HUM      RTE. 299      P.M. (K.P.) 30.2 / 30.6      BRIDGE #

LOCATION (STA/OFFSET or NORTHING/EASTING)  
Cutslope at Station 121+40 (Eastern Soil Face)

BRIDGE NAME      EFIS NUMBER  
0100020307, 01-0A3200

TOP HOLE ELEVATION  
2453 ft msl

CREW: Ruen Drilling      EQUIPMENT: Boart Longyear LF 70      CHC NUMBER

HAMMER ID#

SITE LOCATION MAP (Inc. North Arrow & Benchmark Datum)	LOGGER T. Nordstrom	
	GWS NA	DATE 12/9/2014
	GWS	DATE
	CASING SIZE None	CASING DEPTH
	CASING SIZE	CASING DEPTH
	SLURRY TYPE	
	SURFACE CONDITIONS (Ground Slope, Water, Vegetation, etc) Horizontal Drilled in existing cutslope. Drilled perpendicular to traveled way at N18W.	

REMARKS (Tool Sizes/Type - Rods & Bits, etc) (Hole Condition – Caving, Squeezing, Loss of Circulation, etc.) RECOVERY & RQD Drill Rig reactions – slowing, chattering, skipping, blocking off)	FIELD TESTING				DEPTH	GRAPHIC LOG	DESCRIPTION <i>Soil Classification (group name, group symbol, consistency/relative density, color, moisture, percent of cobbles or boulders, particle size range, plasticity, cementation, description of cobbles and boulders. Take q<sub>u</sub>, S<sub>u</sub>, Additional Comments)</i> <i>Rock Classification (Rock name, bedding spacing, color, weathering descriptors, rock hardness, fracture density, discontinuity characteristic: type, weathering, dip &amp; magnitude. Slaking, odor, other characteristics)</i>
	SAMPLE #	BLOWS PER 6"	SPT (N)				
Diamond core 5" with tri-cone inner for short casing / pilot hole.					1	No recovery due to pilot hole drilling	
Diamond Core bit, 4" OD, 10' sticks							
Punch core sampler, 3" OD					2		
Drilled with water							
					3		
Drilling considered soft throughout the length of boring by the driller					4		
					5		
					6		
4" Recovery Gravel is a mixture of SANDSTONE and CHERT					7		Well-graded GRAVEL (GW); loose; moist; tan and red; trace fines.
					8		
No recovery from 8' to 10.5'					9		
Cutslope water (5 feet east of boring)					10		

**ROTARY FIELD NOTES**

TL-1271a (REV. 05/04/08)

BORING NUMBER RC-14-002	DATE 12/9/14	DIST. 01	CO. HUM	RTE. 299	P.M. (K.P.) 30.2 / 30.6
LOCATION (STA/OFFSET or NORTHING/EASTING) Cutslope at Station 121+40 (Eastern Soil Face)		TOP HOLE ELEVATION 2453 ft msl		BRIDGE #	EFIS NUMBER 0100020307, 01-0A3200

REMARKS (Tool Sizes/Type - Rods & Bits, etc) (Hole Condition – Caving, Squeezing, Loss of Circulation, etc) RECOVERY & RQD Drill Rig reactions – slowing, chattering, skipping, blocking off)	FIELD TESTING			DEPTH	GRAPHIC LOG	DESCRIPTION <i>Soil Classification (group name, group symbol, consistency/relative density, color, moisture, percent of cobbles or boulders, particle size range, plasticity, cementation, description of cobbles and boulders. Take q<sub>u</sub>, s<sub>u</sub>, Additional Comments)</i> <i>Rock Classification (Rock name, bedding spacing, color, weathering descriptors, rock hardness, fracture density, discontinuity characteristic: type, weathering, dip &amp; magnitude. Slaking, odor, other characteristics)</i>
	SAMPLE #	BLOWS PER 6"	SPT (N)			
				11		SEDIMENTARY ROCK (GREYWACKE); fine-grained; fresh; hard; dark grey; intensely and very intensely fractured.
				12		
				13		
8" Recovery				14		
				15		
				16		
6" Recovery				17		
No recovery 17' to 22.5'				18		
				19		
				20		
				21		
				22		
				23		Well-graded GRAVEL with SAND (GW); loose, grey; moist; some coarse SAND; trace fines.
				24		
				25		
8" Recovery				26		SEDIMENTARY ROCK (GREYWACKE); fine-grained; fresh; hard; dark grey; intensely and very intensely fractured.
No recovery from 26.5' to 28'				27		



**ROTARY FIELD NOTES**

TL-1271a (REV. 05/04/08)

BORING NUMBER: RC-14-003  
 DATE: 12/9/2014

DIST. CO. RTE. P.M. (K.P.) BRIDGE #  
 01 HUM 299 30.2 / 30.6

LOCATION (STA/OFFSET or NORTHING/EASTING)  
 Cutslope at Station 122+80 (Eastern Cutslope Face)

BRIDGE NAME EFIS NUMBER  
 0100020307, 01-0A3200

TOP HOLE ELEVATION  
 2447 ft msl

CREW EQUIPMENT CHC NUMBER  
 Ruen Drilling Boart Longyear LF 70

HAMMER ID#

SITE LOCATION MAP (Inc. North Arrow & Benchmark Datum)	LOGGER T. Nordstrom	
	GWS NA	DATE 12/9/2014
	GWS	DATE
	CASING SIZE None	CASING DEPTH
	CASING SIZE	CASING DEPTH
	SLURRY TYPE	
	SURFACE CONDITIONS (Ground Slope, Water, Vegetation, etc) Horizontal Drilled in existing cutslope. Drilled perpendicular to traveled way at N15W.	

REMARKS (Tool Sizes/Type - Rods & Bits, etc) (Hole Condition – Caving, Squeezing, Loss of Circulation, etc.) RECOVERY & RQD Drill Rig reactions – slowing, chattering, skipping, blocking off)	FIELD TESTING				DEPTH	GRAPHIC LOG	DESCRIPTION <i>Soil Classification (group name, group symbol, consistency/relative density, color, moisture, percent of cobbles or boulders, particle size range, plasticity, cementation, description of cobbles and boulders. Take q<sub>u</sub>, S<sub>u</sub>, Additional Comments)</i> <i>Rock Classification (Rock name, bedding spacing, color, weathering descriptors, rock hardness, fracture density, discontinuity characteristic: type, weathering, dip &amp; magnitude. Slaking, odor, other characteristics)</i>
	SAMPLE #	BLOWS PER 6"	SPT (N)				
Diamond core 5" with tri-cone inner for short casing / pilot hole.					1	GRAPHIC LOG	No recovery due to pilot hole drilling
Diamond Core bit, 4" OD, 10' sticks					2		
Punch core sampler, 3" OD					3		
Drilled with water					4		
Drilling considered soft throughout the length of boring by the driller					5		
No Recovery 5' to 7.5'					6		
					7		
Indicative of insitu weathered bedrock exposed In the cutslope (CHERT)					8		Poorly-graded GRAVEL (GP); loose; red and tan; moist; coarse GRAVEL.
					9		
					10		

**ROTARY FIELD NOTES**

TL-1271a (REV. 05/04/08)

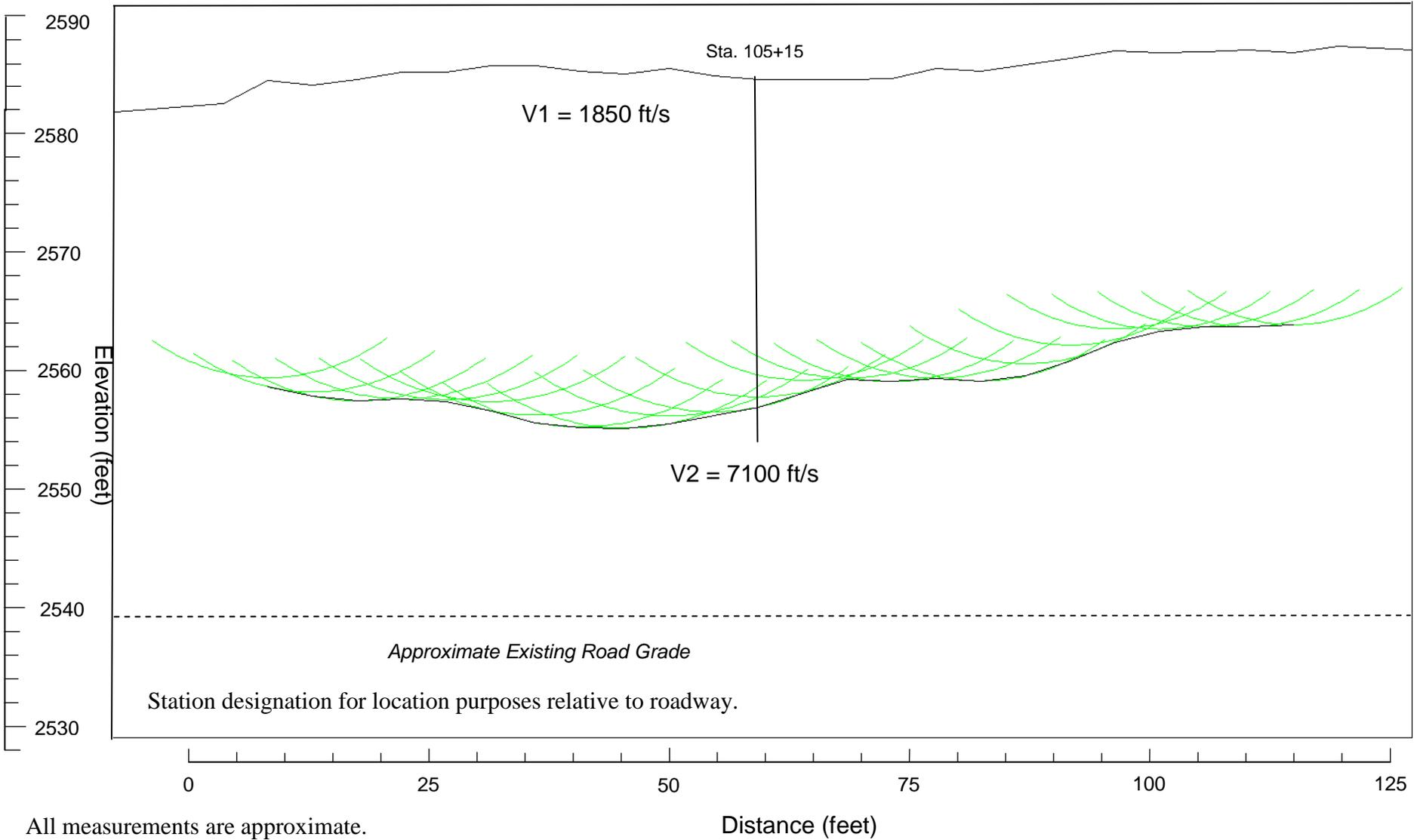
<b>BORING NUMBER</b> RC-14-003	<b>DATE</b> 12/9/14	<b>DIST.</b> 01	<b>CO.</b> HUM	<b>RTE.</b> 299	<b>P.M. (K.P.)</b> 30.2 / 30.6
<b>LOCATION (STA/OFFSET or NORTHING/EASTING)</b> Cutslope at Station 122+80 (Eastern Cutslope Face)		<b>TOP HOLE ELEVATION</b> 2453 ft msl		<b>BRIDGE #</b>	<b>EFIS NUMBER</b> 0100020307, 01-0A3200

REMARKS (Tool Sizes/Type - Rods & Bits, etc) (Hole Condition – Caving, Squeezing, Loss of Circulation, etc) RECOVERY & RQD Drill Rig reactions – slowing, chattering, skipping, blocking off)	FIELD TESTING			DEPTH	GRAPHIC LOG	DESCRIPTION <i>Soil Classification (group name, group symbol, consistency/relative density, color, moisture, percent of cobbles or boulders, particle size range, plasticity, cementation, description of cobbles and boulders. Take q<sub>u</sub>, s<sub>u</sub>, Additional Comments)</i> <i>Rock Classification (Rock name, bedding spacing, color, weathering descriptors, rock hardness, fracture density, discontinuity characteristic: type, weathering, dip &amp; magnitude. Slaking, odor, other characteristics)</i>
	SAMPLE #	BLOWS PER 6"	SPT (N)			
				11		
No recovery from 11.5' to 13'				12		
				13		
CHERT and SANDSTONE				14		Well-graded GRAVEL with SAND (GW); loose; red, tan and brown; Some SAND.
				15		
				16		
				17		
				18		
				19		
Consistent with SANDSTONE bedrock in the Western portion of the project.				20		SEDIMENTARY ROCK (GREYWACKE); medium-grained; moderately weathered; m. hard; tan; intensely and very intensely fractured (F1, 45 deg., 2" spacing, moderately open, thin iron filling, moderately rough), Dissolution voids
				21		
				22		
				23		SEDIMENTARY ROCK (GREYWACKE); medium-grained; fresh; m. hard; tan; intensely and very intensely fractured (F1, 45 deg., 2" spacing, moderately open, thin iron filling, moderately rough),
End of Boring				24		Quartz veining to 1/16".
No water developed from the boring						

## **ATTACHMENT B: SEISMIC REFRACTION PROFILES**

S

N



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 Office of Geotechnical Support  
 Geophysics and Geology Branch

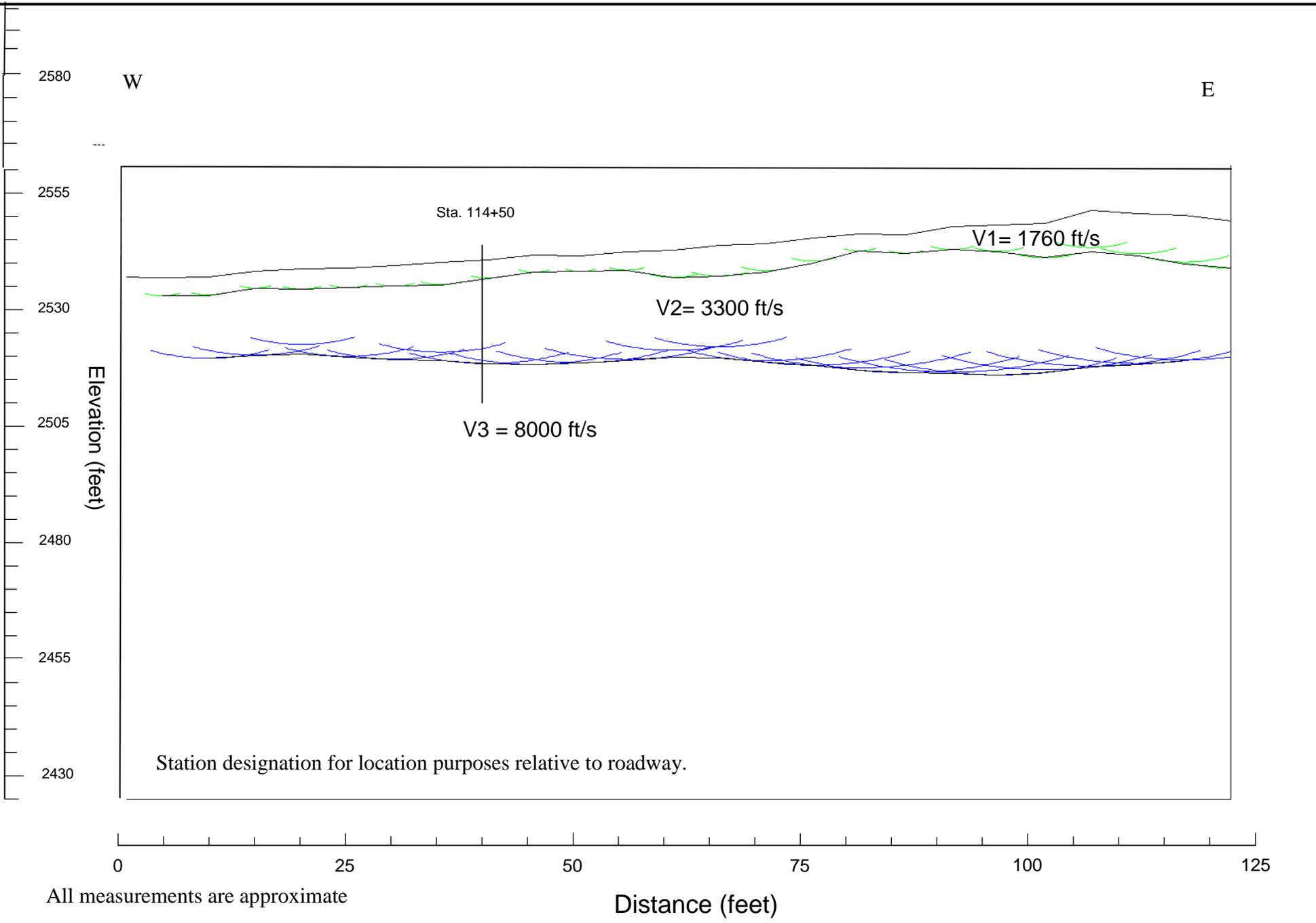
EA 0A320

0100020307

Cedar Gap Curve Improvement

Seismic Line 1

Attach.  
 B

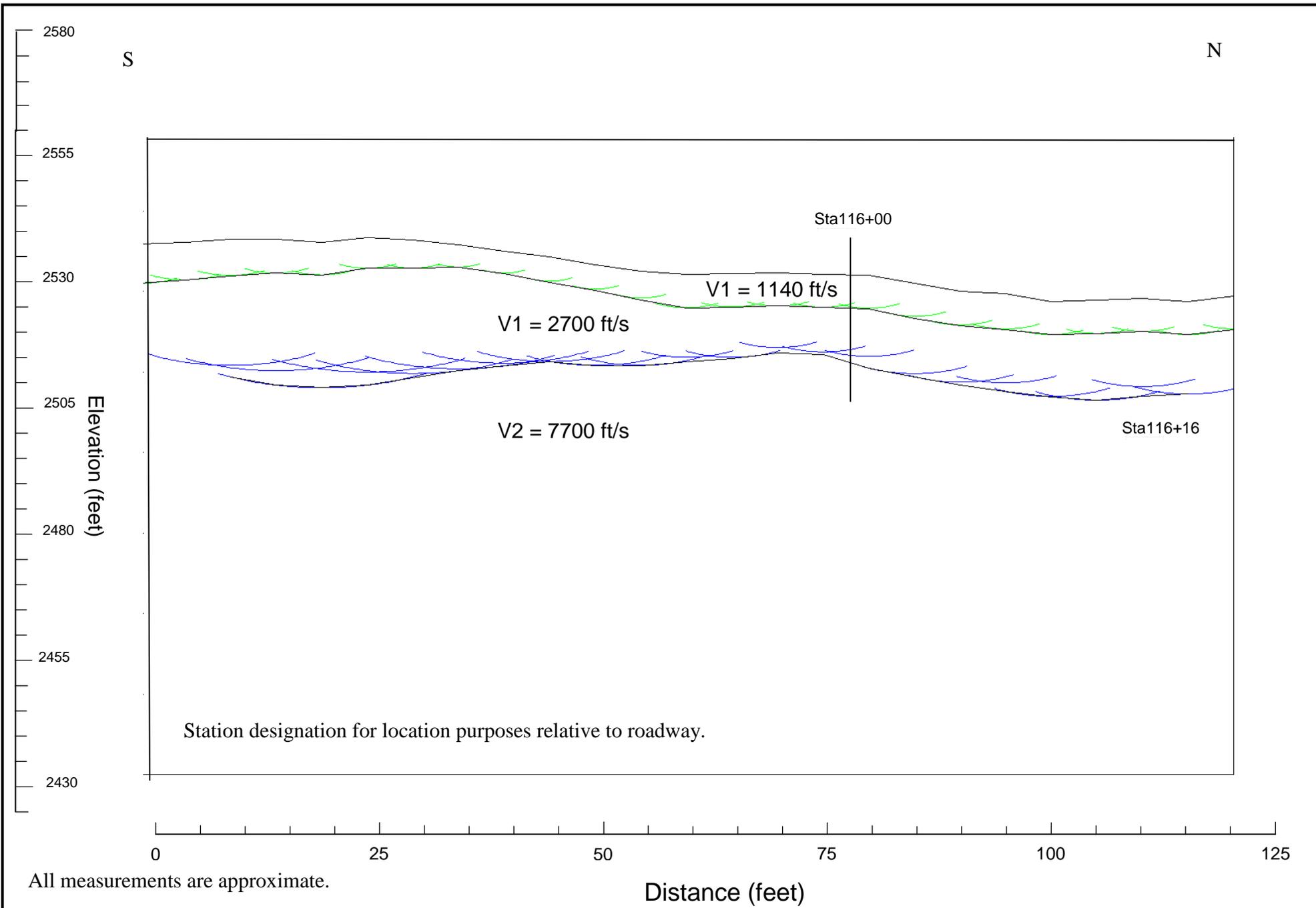


Division of Engineering Services  
 Office of Geotechnical Support  
 Geophysics and Geology Branch

EA 0A320  
 0100020307

Cedar Gap Curve Improvement  
 Seismic Line 2

Attach.  
 B



Division of Engineering Services  
Office of Geotechnical Support  
Geophysics and Geology Branch

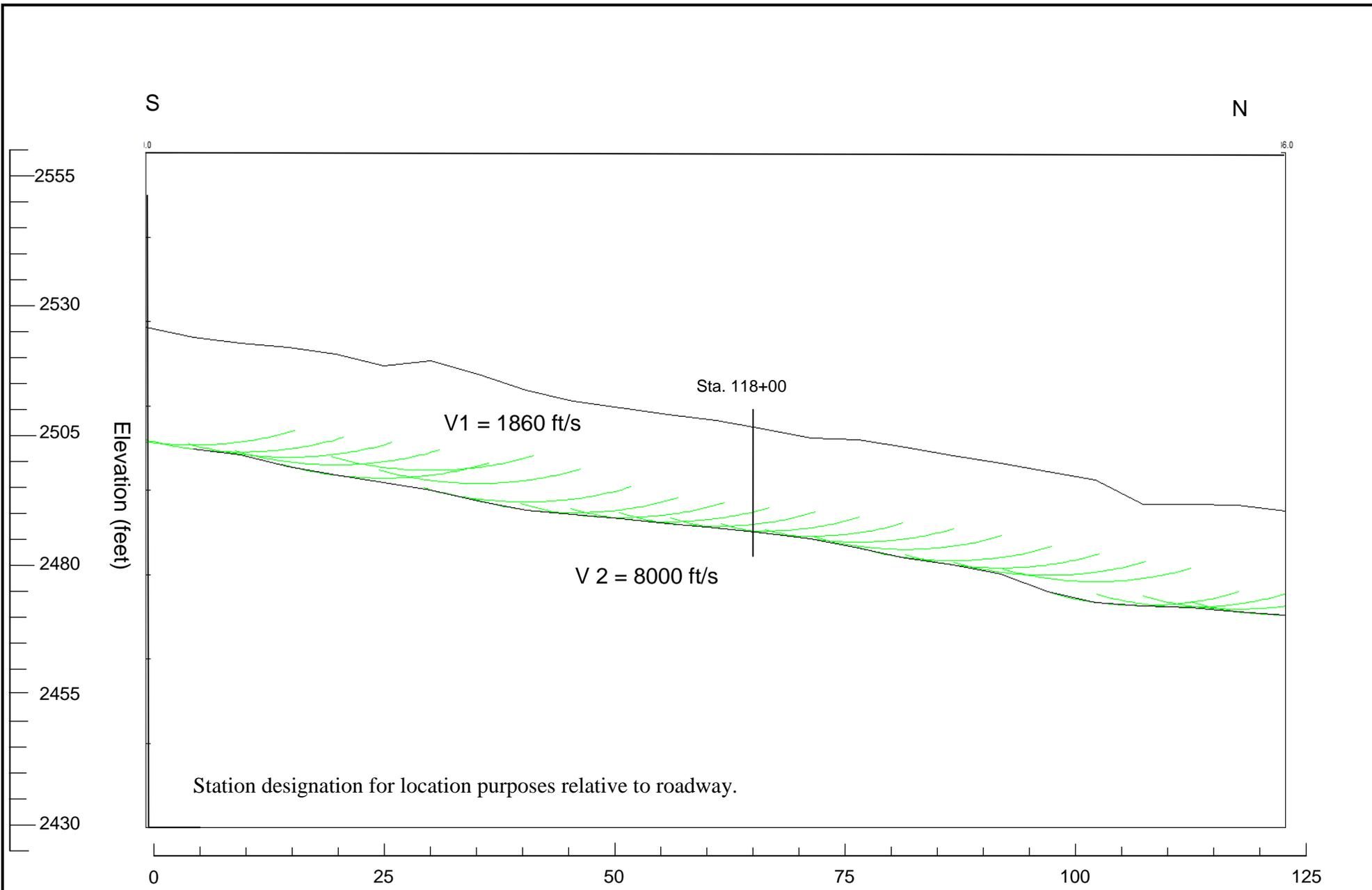
EA 0A320

0100020307

Cedar Gap Curve Improvement

Seismic Line 3

Attach.  
B



All measurements are approximate.

Distance (feet)



Division of Engineering Services  
Office of Geotechnical Support  
Geophysics and Geology Branch

EA 0A320

0100020307

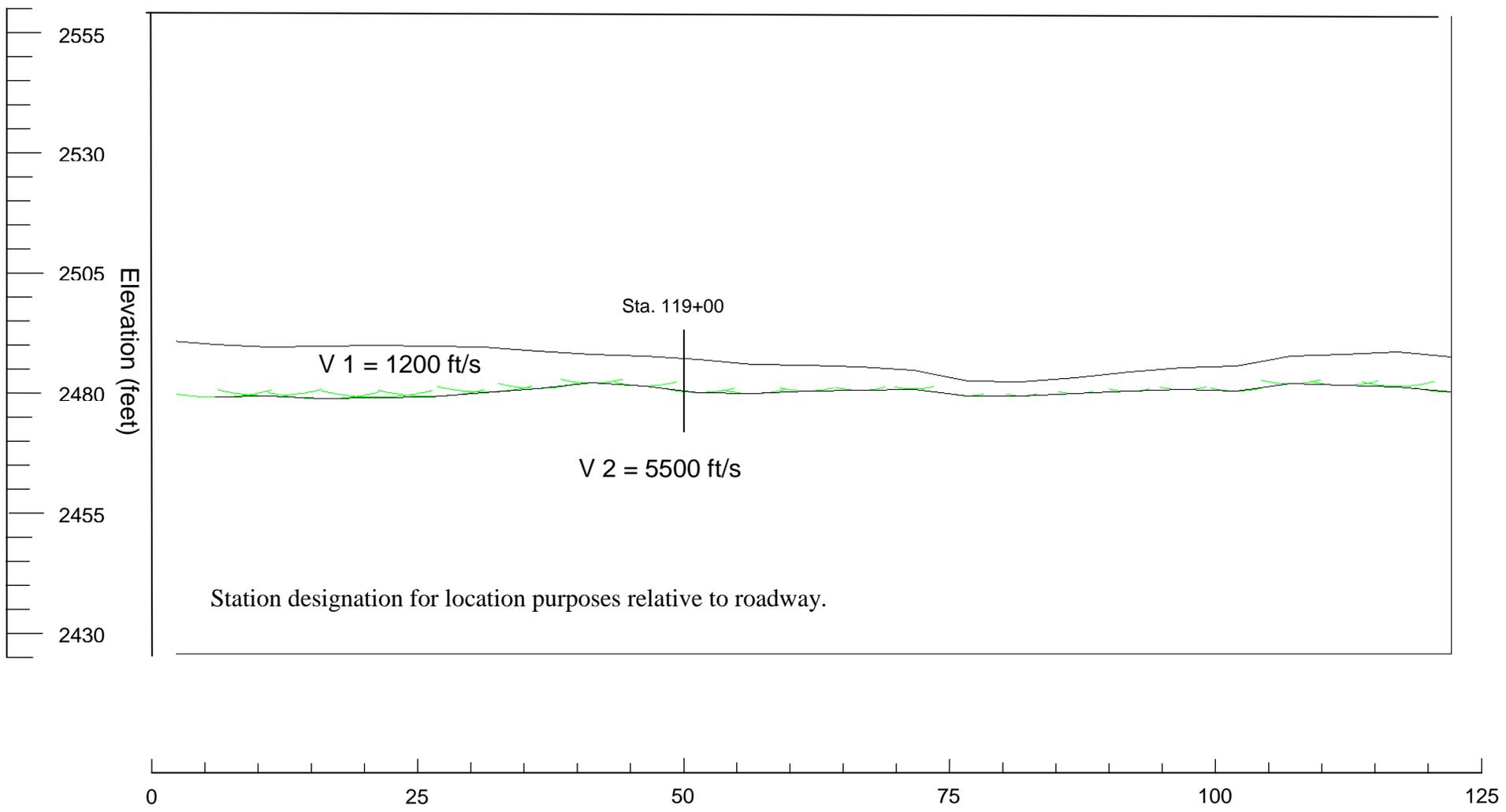
Cedar Gap Curve Improvement

Seismic Line 4

Attach.  
B

W

E



All measurements are approximate.

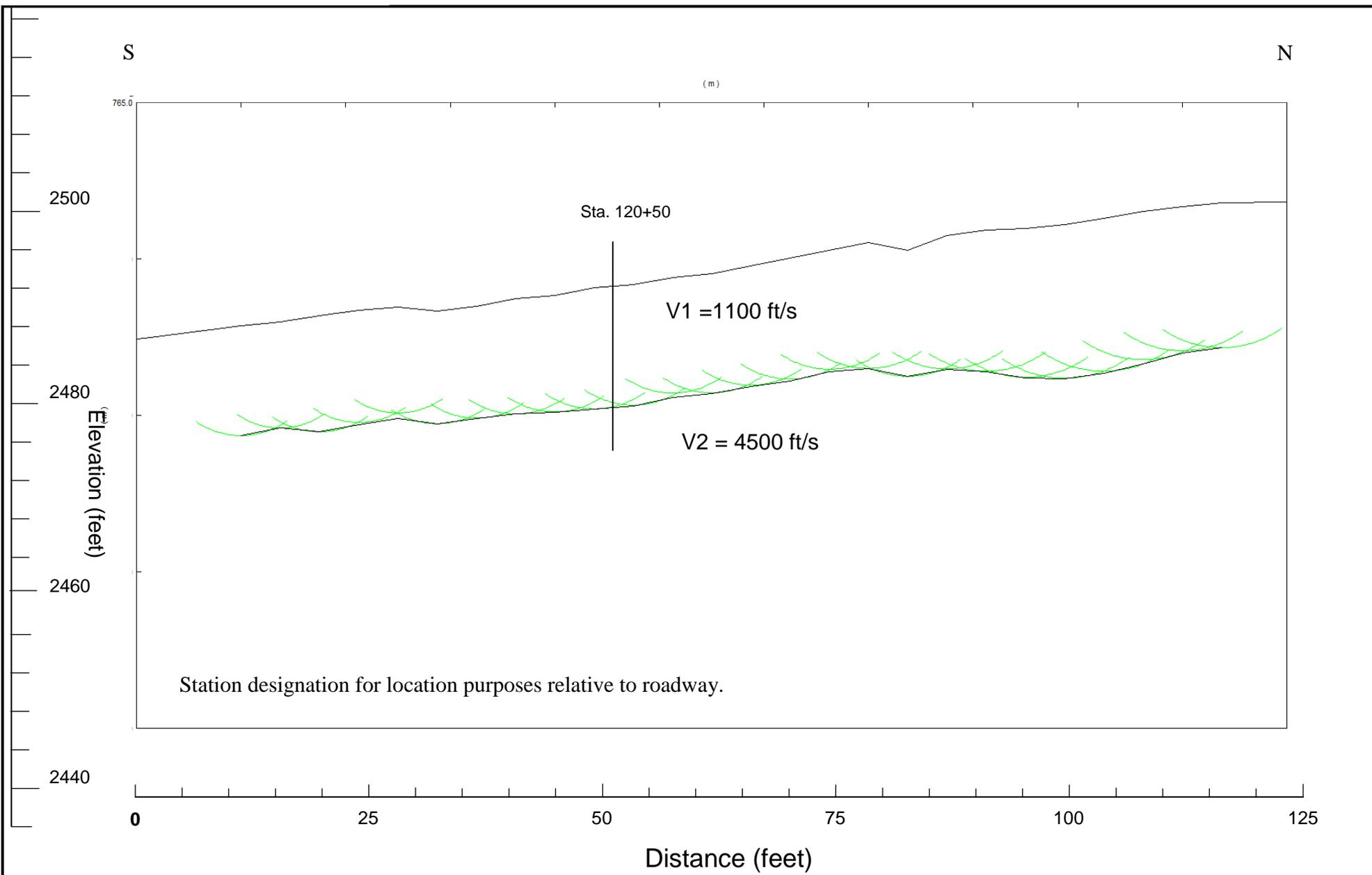


Division of Engineering Services  
 Office of Geotechnical Support  
 Geophysics and Geology Branch

EA 0A320  
 0100020307

Cedar Gap Curve Improvement  
 Seismic Line 5

Attach.  
 B



All measurements are approximate.



Division of Engineering Services  
Office of Geotechnical Support  
Geophysics and Geology Branch

EA 0A320

0100020307

Cedar Gap Curve Improvement

Seismic Line 6

Attach.  
B